Jennifer Brooks Hutchinson
Senior Counsel

nationalgrid

February 19, 2010

VIA HAND DELIVERY & ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket 4111 – Review of Proposed Town of New Shoreham Project Pursuant to RI General Laws § 39-26.1-7
Responses to Data Requests

Dear Ms. Massaro:

Enclosed please find ten (10) copies of the National Grid's[1] responses to the Division's Fourth Set of Data Requests and the Commission's Fifth Set of Data Requests, both issued on February 12, 2010, in the above-captioned proceeding.

In this transmittal, National Grid is providing its response to Division Data Request 4-1, which was the only data request issued in this set, and to Commission Data Request 5-3. The Company's responses to the Commission's remaining Data Requests will be forthcoming.

Thank you for your attention to this transmittal. If you have any questions, please feel free to contact me at (781) 907-2121.

Very truly yours,

Jennifer Brooks Hutchinson

Enclosures
cc: Docket 4111 Service List
Leo Wold, Esq.

[1] Submitted on behalf of The Narragansett Electric Company d/b/a National Grid ("Company").

Certificate of Service

I hereby certify that a copy of the cover letter and/or any materials accompanying this certificate were electronically submitted, hand delivered and/or mailed to the individuals listed below.

Joanne M. Scanlon
National Grid

February 19, 2010
Date

National Grid – Review of Proposed Town of New Shoreham Project
Docket No. 4111 - Service List Updated 2/10/2010

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Division Data Request 4-1

Request:

In a letter to the Commission dated October 15, 2009 from Mr. Gerwatowski, National Grid states that it received only one proposal from one developer, Deepwater Wind, in response to its July 31, 2009 Request for Proposal ("RFP"). Please provide a complete copy of the submittal by Deepwater to National Grid.

Response:

See Attachments DIV 4-1-1 through 4-1-9.

Prepared by or under the supervision of: Madison N. Milhous, Jr.

Table of Contents

Proposal for Block Island Wind Farm

SECTION 1: PROPOSAL CERTIFICATION FORM

Authorized Applicant's Signature and Acceptance Form

The undersigned is a duly authorized representative of the Bidder listed below. The Bidder hereby certifies that all the statements and representations made in this Proposal are true and accurate to the best of the Bidder's knowledge. The Bidder represents that it understands the requirements, terms, and conditions of the RFP.

The Bidder agrees that the prices, terms and conditions of this Proposal are valid for at least 120 days after bid submission.

Submitted by:	Deepwater Wind Block Island, LLC (Exact legal name of Company)
Bidder	____________________ (if different than above)
Signature of an Officer Of Bidder	____________________
Print or type name of Officer	William Moore
Title	Chief Executive Officer, Deepwater Wind Holdings, LLC
Date Signed:	August 31, 2009

SECTION 2: PROJECT DESCRIPTION/CONTACT INFORMATION

Bidder Name: Deepwater Wind Block Island, LLC

Project Name: Block Island Wind Farm

Technology: Wind turbine generators

Estimated Commercial Operation Date: Q3 2012

Products Bid (Energy and/or REC, Energy, RECs and Capacity): Energy, RECs, and capacity

Project Site/Location:
City or Town: Town of New Shoreham, Block Island, Rhode Island

Proposed Interconnection Point: Town of New Shoreham, Block Island, Rhode Island

Proposed Point of Delivery: Town of New Shoreham, Block Island, Rhode Island

Cable System Description
- Cable Type(s): Submarine XLPE
- Voltage and Rating: 33 kV 500 kcmil
- Interconnection Points: Typical switchyard pothead

Project Contact
- Name: Paul Rich
- Address: 56 Exchange Terrace, Suite 100
  Providence, RI 02903
- Phone Number: 401-648-0606
- Email Address: prich@dwwind.com
- Facsimile Number: 401-633-6553

Capacity of the Facility to be Delivered to the Buyer at the Point of Delivery (MW):
- Gross: ____
- Net: ____

Expected Annual Energy Production to be Delivered to the Buyer at the Point of Delivery (MWh): 100,915 MWh+/- 10% MWh

Deepwater Wind believes we have sized the project – and its expected output – within the limits defined in National Grid's RFP; we are prepared to address any questions or concerns National Grid may have regarding the wind farm's projected electrical output.

Estimated Net Capacity Factor (%):	40%	
Study Provided to Support Estimated Generation:	__X__ (Yes)	______ (No)
If Yes, Name of Firm Who Prepared the Study:	AWS Truewind[1]	
Expected Annual Availability (%):	93.7%[2]	
Term of Contract:	20 years	
Estimated Equipment Life:	20 years	
Equipment Manufacturer:	TBD TBD	
Energy Source:	Wind	
Project Type (check all applicable):	____X___Non-Firm Intermittent Energy ________Dispatchable Energy	

[1]There is a .02% difference between AWS Truewind report and the pro forma energy production estimates. See AWS Truewind's full report in Appendix A.

[2] This and future reference to expected availability includes only mechanical availability factors and does not account for environmental degradation or capacity factor.

SECTION 3: EXECUTIVE SUMMARY

Overview. Deepwater Wind Block Island, LLC ("DWBI") proposes to construct and operate a 28.8 MW (nameplate) offshore wind renewable energy project approximately three (3) miles off the southeast coast of Block Island (the "Block Island Wind Farm" or "Generation Project"). It will consist of up to eight, 3.6 MW wind turbine generators. The turbines will be connected by inter-turbine array cables of 33kv, 500 kcmil ratings; an export cable of similar size will connect the array to a new substation on Block Island.

An affiliate of DWBI, Deepwater Wind Block Island Transmission, LLC ("DWBT") also proposes to develop the Block Island Transmission System (the "Transmission Project"), which will include a transmission cable of up to 69kv, 300 kcmil that will connect Block Island (from a separate and new substation) to the mainland grid in Rhode Island (ISO-NE) at an interconnection point that is yet to be determined. The Transmission Project has filed for an interconnection point and we have begun discussions with National Grid planning engineers to identify possible alternate site locations that may be technically feasible and more cost-effective to the ratepayers.

DWBI and DWBT are wholly owned subsidiaries of Deepwater Wind Rhode Island, LLC ("DWRI") which in turn is a wholly owned subsidiary of Deepwater Wind Holdings, LLC ("Deepwater"). Deepwater's investment and development expertise will support all aspects of the Generation Project's development, finance, construction, and operations and maintenance. Deepwater is owned by: an entity of the D. E. Shaw group; First Wind Holdings, LLC; an entity of the Ospraie Group; and an entity of Paragon Capital.

Eligibility Criteria. The Block Island Wind Farm qualifies as an eligible renewable energy resource pursuant to R.I.G.L §39-26-5 (wind) and pursuant to R.I.G.L. §39-26.1-2(6) (newly developed renewable energy resource that has not begun operation nor have investment or lending arrangements to finance construction been implemented). The electrical output of the facility meets the limits defined in the RFP, as described in Bidder Response Form 2: Project Description/Contact Information, under "Expected Annual Energy Production to be Delivered to the Buyer at the Point of Delivery (MWh)".

As further described in Section 4, DWBI presents an innovative approach to pricing power from the Block Island Wind Farm. In addition to a conforming, fixed-price bid, DWBI is also proposing an alternative pricing formula that is better suited to the Generation Project's design – a smaller, first-of-its kind demonstration wind project. DWBI believes that a transparent, collaborative, or "open book" approach to contract structuring is the best way to achieve the lowest project cost, the lowest cost of power, and the best results for Rhode Island's ratepayers.

The proposed contract term is twenty (20) years, subject to approval by the Rhode Island Public Utilities Commission.

The Generation Project will be interconnected with the facilities of the Block Island Power Company ("BIPCo") in the Town of New Shoreham, which will be electrically integrated with a new cable system connecting BIPCo to National Grid facilities on the mainland of Rhode Island. DWRI has filed an interconnection request with ISO New England, Inc ("ISO-NE").

A separate proposal for transmission facilities to the mainland of Rhode Island is included in this proposal and is being submitted by DWBT, pursuant to "Cable System Proposal", Appendix C of the RFP's Response Package.

Threshold Criteria. DWBI and DWBT have included detailed project schedules for development of the Generation Project and Transmission Project. These project schedules are supported by narratives in several sections of the respective Bidder Response Forms. Preparation of our permitting plans has been supported by our staff and expert consultants. We have attended many meetings with state and federal permitting agency officials; these meetings have informed the preparation of the timelines and milestones that we are providing in this response to National Grid's RFP. The schedules we have prepared include contingencies to ensure that the ultimate dates we identify can be met.

DWBI and DWBT have also included in our bid response detailed financing plans for the Generation Project and Transmission Project. DWBI's and DWBT's principals, together with Deepwater's sponsors and affiliates, have the requisite experience to raise additional capital for well-developed projects with attractive risk/return profiles and are well positioned to draw on that expertise to arrange the financing for the Generation Project and Transmission Project. Both DWBI and DWBT are prepared to post security should National Grid require this.

DWBI and DWBT have invested a substantial amount of time and resources preparing interconnection and transmission development plans. To fully develop the pricing information included in this response, we have also had to prepare detailed engineering designs and construction plans; in addition, we identified vessel types (and their charter fees) that will be used to install the foundations and wind turbines in the offshore marine environment. Weather delays have been included in our development timeline to ensure that we can meet the construction schedule that we proposing in this response document.

Success of this project is dependent upon DWBI and DWBT obtaining site control over essential on-shore and offshore properties. Our selection by the State of Rhode Island as its preferred developer of offshore wind farms, along with our relationship with the Rhode Island Coastal Resources Management Council (CRMC) and our participation in the CRMC's Special Area Management Plan, demonstrate the high likelihood that we will be able to obtain the necessary rights to construct and operate the wind farm and develop the transmission cable to the mainland. Letters of Support from the Rhode Island Governor, Rhode Island Economic Development Corporation, Rhode Island Department of Transportation, and the Town of New Shoreham also serve to demonstrate the likelihood that we will be successful in our efforts to obtain the necessary site control.

Offshore wind energy facilities, and their associated submarine transmission lines, while new to the United States, have been operating in Europe since 1991. For decades, oil rigs in the Gulf of Mexico have utilized the jacket foundations we propose for our eight turbines. Accordingly, there are no technical challenges that have not been overcome by developers of similar offshore facilities. DWBI and DWBT have focused considerable time and effort on the logistics of developing and installing the requisite equipment for the Block Island Wind Farm and transmission line. We have relied upon the expertise of vendors, contractors, and consultants who have hands-on experience installing offshore oil and gas rigs, jacket foundations, offshore wind turbines and submarine cables. We have also recently concluded extensive geophysical and geotechnical work at the proposed site. While we are pleased with the initial analysis of the data that have been collected and, importantly, no fatal flaws were discovered, these geotechnical results are still preliminary. Deepwater still has months of engineering work to be done before it can reasonably finalize the design for the jacket foundation, as well as the costs to fabricate, transport, and install these structures.

Personnel working on the DWBI and DWBT projects have extensive experience developing, planning, and implementing dozens of offshore facilities, submarine cables and renewable energy projects. The Generation Project and Transmission Project will be managed by William M. Moore, Chief Executive Officer and Managing Director of Deepwater Wind Holdings. Mr. Moore is one of the most experienced wind project developers now active in the U.S. offshore wind market.

<u>Background.</u> In 2008, after a competitive bidding process that involved seven development companies, the State of Rhode Island selected Deepwater as the preferred developer to meet the state's renewable energy standard ("RES") that requires 15 percent of the state's energy load to be powered by renewable energy sources by 2020. Deepwater proposed two offshore wind farm projects: a 10 MW project in state waters off of Block Island; a utility-scale project in federal waters within Rhode Island's zoning area; and the construction of a transmission cable from Block Island to the mainland.

In January 2009, the state entered into a Joint Development Agreement (the "JDA") with Deepwater Wind Rhode Island, LLC ("DWRI", the parent company of DWBI) pursuant to which DWRI agreed, among other things, to build own, operate, and maintain the Block Island Wind Farm and to negotiate land leases with the Quonset Development Corporation ("QDC") in support of fabrication of the wind farm materials; e.g., foundation jackets and pin piles.

In July 2009, DWRI signed an option to lease 117 acres of land with the QDC. The agreement requires DWRI, among other things, to develop a logistics plan for on-site fabrication and manufacturing and to conduct required environmental reviews, in accordance with state and federal laws.

DWRI has been an active participant in the Rhode Island Coastal Resources Management Council's ("CRMC") Special Area Management Plan ("SAMP") research activities. The goal of the SAMP is to define use zones for Rhode Island's ocean waters. DWRI has coordinated data collection activities with CRMC; we have also shared pertinent data from our various activities with University of Rhode Island researchers and other stakeholders involved in the SAMP process. DWRI's research efforts include operation of an avian radar system to observe migration patterns in the southeast quadrant off Block Island and collection of geophysical and geotechnical information in the same area. DWRI has also recently installed a meteorological data collection mast (wind speed monitors) on Block Island and is in the process of validating specialized laser collection devices (LiDAR) on the island, as well.

DWRI and CRMC have coordinated pre-filing consultations with federal agencies that have jurisdiction over our proposed activities; these agencies include the U.S. Department of the Interior's Minerals Management Service, the U.S. Army Corps of Engineers, and the National Oceanic and Atmospheric Administration.

Locally, DWRI conducts frequent public outreach events on Block Island through Open House forums and presentations and interviews with interested groups and individuals. To date, representatives of DWRI have conducted two well-attended open houses on Block Island, seven face-to-face meetings with a variety of island organizations and conducted multiple presentations in front of the New Shoreham Town Council and Energy Utility Task Group. A recent independent poll conducted by Roger Williams University of Island found that 84% of the voters are in favor of the Block Island Wind Farm.

Throughout this period, DWRI has continued to refine and optimize the engineering of our turbine foundations and to investigate interconnection and siting options. DWRI has filed a request with ISO-NE for interconnection for the 10 MW Block Island project and has been working on system impact evaluations with ISO-NE and National Grid representatives and planning engineers. DWRI will continue these efforts to identify the best interconnection point to reduce costs and minimize overall system impacts.

DWRI is also continuing to provide frequent project milestone and JDA compliance updates at monthly meetings with the Governor and his staff, the Economic Development Corporation, the Office of Energy Resources, QDC, and other interested state stakeholders.

SECTION 4: PRICING INFORMATION

4.1 BID OVERVIEW

DWBI's response to this RFP includes the following two proposals:

- A Fixed-Price Bid broadly conforming with the terms of the RFP (Schedule P-1); and
- An Alternative Pricing Formula that allows ratepayers to benefit from Generation Project cost savings, including savings from Federal tax incentives (Schedule P-2).

DWBI believes that the Alternative Pricing Formula establishes a transparent collaborative framework that will increase stakeholder support and, accordingly, improves the likelihood of a successful Generation Project.

4.2 RATIONALE

DWBI is committed to negotiating a power purchase agreement that achieves the following objectives:

- Maximizes the potential value of the Project to Rhode Island ratepayers;
- Significantly lowers the cost of electricity to consumers living on Block Island, while also substantially improving their system reliability (this in combination with construction of the transmission cable to the mainland); and
- Takes an important step toward establishing Rhode Island as the East Coast hub of a promising new energy industry, yielding significant economic development benefits to the State.

DWBI is also committed to negotiating a power purchase agreement that supports a prudent and responsible development pathway to the successful construction of the Block Island Wind Farm. Although smaller power projects always have some diseconomies of scale, achievement of this milestone will provide strategic benefits for both DWBI and the consumers of Rhode Island by demonstrating that offshore wind can be built at a cost that is competitive with more traditional sources of generation, on a carbon neutral basis. Proving this concept will reinforce DWBI's commitment to raise and spend the significant amounts of capital that will be required to build the larger offshore wind project contemplated by its JDA.

For the foregoing reasons, DWBI does not propose to negotiate a power purchase agreement with revenue maximization as its primary objective. Rather, DWBI strongly prefers a contract structure that encourages transparency and a high level of communication and collaboration with National Grid with the goal of achieving the lowest possible total Generation Project cost (and consequently a lower energy price). Such a structure aligns DWBI's interests with those of National Grid and Rhode Island ratepayers.

Since the execution of the JDA with the State of Rhode Island in January, 2009, DWBI has invested millions of dollars, and committed significant resources of staff time, to achieve greater certainty with respect to the total capital cost of the Generation Project (primarily the cost of the wind turbine generators and the offshore foundations; alternative installation methodologies; and the cost of the offshore construction effort) and Generation Project performance (primarily the wind resource). For example, DWBI has:

- Entered into negotiations with both of the leading offshore wind turbine manufacturers regarding a Turbine Supply Agreement for the Generation Project;
- Entered into negotiations with several shipyards regarding supply of the jacket foundations, and associated pin piles, needed for deep water wind turbine installations;
- Undertaken several million dollars worth of both geophysical and geotechnical studies of the seafloor and subsurface conditions at the proposed Generation Project site;
- Engaged in exploratory discussions with several different offshore constructors, construction management companies and vessel owners; and
- Permitted and installed a meteorological tower and supporting wind resource collection devices on Block Island.

The State and Federal permitting and approval schedules are the key drivers of the construction timetable. Schedule uncertainty increases project risk, increases project contingencies, and increases the premium charged by providers of raw materials and equipment. As the developer of the Generation Project, one of the most important roles played by DWBI will be to use its experience, and that of its investors and affiliates, to implement an end-to-end optimization exercise with respect to Generation Project costs, taking the permitting and overall project management plan into consideration. This optimization exercise will include:

- Refining the logistics of sourcing and supplying the jacket foundations and pin piles;
- Finalizing operational planning and construction methodologies for the Generation Project;
- Taking advantage of market opportunities and leveraging concurrent negotiations with multiple vendors; and
- Locking or hedging costs at an appropriate juncture in the development cycle.

Based on the information developed by DWBI to date, DWBI believes that its current Generation Project cost estimates can be improved, and therefore the all-in power price to be borne by Rhode Island ratepayers can be lowered, through additional Generation Project development work -- additional planning, engineering, and negotiation with vendors and suppliers. For example, DWBI expects that the as-delivered turbine prices can be reduced, but cannot know the final contract price until terms and conditions - including the scope of the manufacturer's warranty as to performance and availability - have been fully negotiated. Although DWBI is confident that additional cost savings will be realized, the magnitude of these savings cannot be calculated until such development work is complete, and therefore have not been factored into the conforming Fixed-Bid Price. However, DWBI believes its Alternative Pricing Formula provides a way to share these cost savings with ratepayers as they are realized.

In addition to 'hard costs', there are other factors that influence price which DWBI is unable or less able to control. For example:

- While there currently are favorable Federal incentives such as the Production Tax Credit and Investment Tax Credit that would lower the net cost of building the Project, all of of these incentives are slated to expire at the end of 2012. For example, in preparing this price proposal, DWBI has assumed that the Project will be completed in time to qualify for the Investment Tax Credit and the associated cash grant payment program authorized by Section 1603 of the American Recovery and Reinvestment Act. Any significant delay in the development schedule (for example, as a result of permitting delays), could jeopardize the eligibility of the Project for these important incentives.

- In addition to tax credits, the Federal tax regime permits owners of renewable energy assets to take accelerated depreciation deductions. In a typical renewable energy project, the value of these deductions is monetized by entering into a "tax equity transaction", usually with financial institution. DWBI has made the assumption that such a financing arrangement would be available on terms consistent with those for past antecedent transactions, including those entered into by its investors. The value of the monetized tax deductions is, in turn, shared with ratepayers.

Accordingly, DWBI proposes that the power purchase agreement reflect an adjustment mechanism for delays or legislative changes that would result in Federal tax incentives (including the cash grant) becoming unavailable, or if there is no way to monetize the value of depreciation deductions.

Other than construction cost, Federal subsidies, and the ability to monetize tax deductions, the final key driver of power pricing for a wind project is the nature of the wind resource. DWBI commissioned a preliminary report on the wind resource available in the waters south of Block Island, and has undertaken a multi-faceted wind resource assessment program that includes wind velocity and directional data collection from both a land-based meteorological tower recently erected on Block Island, along with an innovative buoy-mounted collection device to be deployed offshore in the proposed Generation Project site in the fall of 2009. However, until such meteorological data has been collected for a sufficient time and thoroughly analyzed, there is no way to confidently estimate the Generation Project's power production profile, and therefore no way to confidently estimate the power price necessary to attract the debt and equity capital needed to build the Project. DWBI anticipates that our initial wind resource analysis will not be available until the second half of 2010 at the earliest. Optimally, the power price would be based on mean data collected over the course of several years to dampen the impact of seasonal and annual variations in the wind resource. DWBI proposes a risk-sharing arrangement in which DWBI will take the risk of wind resources falling below a set threshold amount, but in which volatility above this threshold will be reflected in the power price.

4.3 FIXED-PRICE BID - SCHEDULE P-1

DWBI proposes a Fixed-Price Bid structured as follows (2009 dollars):

Energy Price	REC Price	Capacity Price	Bundled Energy Price
$162.35/MWh	$60.92/MWh	$6.01/kw-month	$229.03/MWh

These prices are subject to a 3.5% escalator, commencing in 2010, as shown on Schedule P-1 and assume a net capacity factor of 40% and the availability of the Investment Tax Credit cash grant and tax equity financing. To the extent those assumptions are incorrect, the adjustments described in Section E and Section F would apply.

The Fixed Price Bid factors in the significant level of uncertainty associated with the construction of any offshore project at the current stage of development. These include uncertainties concerning the geophysical characteristics of the proposed Generation Project site, availability and charter cost of installation vessels, uncertainties associated with supply chain logistics, weather risk, and a range of contingencies reflecting engineering and construction methodology decisions that have yet to be finalized. In addition, there are cost categories (such as material and equipment costs) that have yet to be fully negotiated. The Fixed Bid Price would yield a 12% project-level return based on current cost estimates and contingencies (the return would correspondingly be higher to the extent of any cost savings are realized). DWBI believes a 12% project-level return will be necessary to attract the necessary capital to develop and build the Generation Project, taking into account the relatively untested regulatory regime and project risk.

By way of comparison, the estimated cost per megawatt-hour of offshore wind in the United Kingdom and Germany, which have the most aggressive plans for the installation of offshore wind in the near future, are shown in the table below.

Country	Cost per MWh in 2009 Prices	Source
Germany	$214 (€150 converted at 1.42)	German Feed-In-Tariff[3]
United Kingdom	$233 (£144 converted at 1.62)	Ernst & Young[4]

The Ernst & Young study referenced above highlighted that the average capital cost of building offshore wind farms has doubled since 2006, largely driven by supply chain constraints for components (e.g. wind turbines) and the cost of services (e.g. installation). Average expected operating costs have increased 65% over the same period.

It is critical to highlight that the Fixed-Price Bid reflects a range of expected outcomes based on currently available information. DWBI does not believe that this approach is ultimately in the best interests of Rhode Island ratepayers, as those ratepayers would, in effect, be locking in the higher costs associated with contingencies that, DWBI believes, can be mitigated or eliminated over time. Even though we believe the prices in schedule P-1 represent the best researched and best available price for offshore wind in North America today, for the reasons described Section B, DWBI strongly prefers a contract structure that offers Rhode Island ratepayers the opportunity to share in the benefits of DWBI's development expertise. This contract structure is described in greater detail below.

4.4 ALTERNATIVE PRICING FORMULA - SCHEDULE P-2

DWBI respectfully suggests that a better way to achieve the lowest cost power from the Generation Project is to adopt an alternative approach that is akin to a partnership with National Grid and its ratepayers. Accordingly, DWBI proposes, as an Alternative Pricing Formula, an 'open book' pricing proposal that would establish a semi-fixed project-level return for building the Generation Project. Under this approach, DWBI's potential return upside would be significantly limited, and any capital or operating cost savings would, by and large, be for the benefit of Rhode Island ratepayers.

By using an 'open book' method to establish a "Structured Price", DWBI can reflect future adjustments to its current cost assumptions in the contracted power price. While these cost assumptions could obviously increase or decrease over time, DWBI believes that there is significant scope for savings. An illustrative Structured Price is shown below (in 2009 dollars):

Energy Price	REC Price	Capacity Price	Bundled Energy Price
$128.98/MWh	$60.92/MWh	$6.01/kw-month	$195.32/MWh

In practice, the Structured Price would be subject to a range of adjustments, as described in greater detail below. However, the illustrative Structured Price shown above demonstrates the potential savings to ratepayers resulting from an adjustment of only two assumptions used in the Fixed-Bid Price: (i) a reduction in total Generation Project cost of 10.3% and (ii) an increase in net capacity factor from 40% to 42.5% (both of which outcomes are entirely possible). Applying an escalation factor of 3.5% to the illustrative Structured Price yields the prices shown on Schedule P-2.

[3] Act Revising the Legislation on Renewable Energy Sources in the Electricity Sector and Amending Related Provisions, passed in June 2008
[4] Ernst & Young, "Cost of and Financial Support for Offshore Wind" (delivered to the UK Department of Energy and Climate Change on April 27, 2009)

The power purchase agreement will contain a detailed mechanism for the actual Structured Price to be "built up" as development and other costs are locked down over time. One approach, and the approach preferred by DWBI, would be to use a financial model, to be appended to the power purchase agreement, to calculate a Structured Price necessary to yield the desired 12% project-level return. A pro forma derived from such a financial model is set forth on Schedule P-2A and shows the assumptions underlying the $195.32 illustrative Structured Price shown in the table above, as compared to the $229.03 Fixed-Bid Price. Each of these variables will be fixed over time and will be used to calculate the power price payable by National Grid.

A detailed (but non-exhaustive) breakdown of the inputs used in the financial model to calculate the Schedule P-2A pro forma is shown below. As part of the open-book process, each input will be "fixed" or "locked" within the time frame shown in the rightmost column.

Component	Fixed At
A. Fixed Construction Costs	
Turbine Price & Delivery Cost	Execution of Turbine Supply Agreement
Jacket and Pin Pile Price & Delivery Cost	Execution of Jacket Supply Agreement
Vessel Charter Rate (but not Charter Duration)	Execution of Charters
B. Variable Construction Costs	
Labor	Commercial Operations Date
Jacket Installation	Commercial Operations Date
Turbine Erection	Commercial Operations Date
Development Costs	Commercial Operations Date
Interest During Construction	Commercial Operations Date
Other Construction Costs	Commercial Operations Date
C. Fixed O&M Costs (Subject to CPI Escalator)	
Turbine Maintenance During Years Warranty Period	Execution of Turbine Supply Agreement
Turbine Maintenance During Out Years	Fixed at End of Warranty Period
Foundation Maintenance Costs	Commercial Operations Date
Cable Maintenance Costs	Commercial Operations Date
Insurance Costs	Commercial Operations Date
D. Federal Incentive Price Adjustment	
Availability of Investment Tax Credit & 1603 Grant	Commercial Operations Date
E. Production-Based Price Adjustment	
Net Capacity Factor	Ongoing during contract term

Like the Fixed-Bid Price, the Structured Price will be subject to adjustment based on the availability of Federal tax incentives and tax equity financing for the Generation Project (as further described in Section 4.4) and the available wind resource (as further described in Section 4.5).

DWBI is prepared to discuss a 'not-to-exceed' price that is consistent with the risk profile of the Generation Project and the goal of providing the lowest possible rate to ratepayers. Features, such as a floor price, could also be built into the price mechanism to provide a meaningful incentive to DWBI to reduce costs as much as prudently possible. Because these objectives could be structured in a number of ways, DWBI welcomes discussion with National Grid on how best to implement these features, if desirable.

4.5 FEDERAL INCENTIVE PRICE ADJUSTMENT

At present, DWBI anticipates that permits will be secured early enough that the Project can be constructed in 2011 or 2012. Achieving commercial operations by December 31, 2012 is necessary to ensure that the project qualifies for one of two potential Federal incentives: the Section 48 Energy Tax Credit (also known as the Investment Tax Credit) or the Section 45 Production Tax Credit. Both of these incentives are in place through 2012 and may or may not be extended.

The prices shown on Schedule P-1 and Schedule P-2 are premised on the availability of the Investment Tax Credit and the availability of the American Recovery and Reinvestment Act Section 1603 Program for Payments for Specified Energy Property in Lieu of Tax Credits. To the extent the Generation Project does not qualify for the Section 1603 payments due to a mutually agreed set of delay conditions, the total Project cost net of Federal renewable energy incentives will be higher, and will require an adjustment to the power price.

Naturally, if the availability of these Federal incentives is extended beyond 2012, DWBI will share the benefit of these incentives through an adjustment in the power price reflecting the value of those incentives.

In addition, DWBI assumes that tax equity financing will be available for the Generation Project based on a fixed set of assumptions consistent with past transactions. If the Generation Project is not able to monetize the value of Federal depreciation deduction incentives, through a tax equity transaction, the total Project cost net of the value of such deductions will be higher, and will require an adjustment to the power price.

4.6 PRODUCTION-BASED PRICE ADJUSTMENT

1. Capacity Factor Adjustment[5]
   For each contract year under the power purchase agreement, a target price (the "Target Bundled Energy Price") will be established as follows:-

   - Under the Fixed-Price Bid, the Target Bundled Energy Price is the price calculated using a fixed set of assumptions as set forth in the power purchase agreement, except for the net capacity factor, which is calculated as set forth below:-

     (i) during the first three years of commercial operation, the net capacity factor used to calculate such price is the net capacity factor using the average of the past three years' P50 wind resource as measured using a defined wind resource measurement methodology and a fixed set of assumptions as to availability; and

[5] Wind resource modeling completed to date indicates that a net capacity factor of 40% based on a P50 case can be achieved at this time. The wind resource at the site is undergoing extensive measurement at this time, but is not expected to be completed for at least 12 months. The Generation Project has to achieve (and therefore the power purchase agreement should contemplate) a sufficiently high capacity factor to produce the 87,600 MWH legislatively mandated goal (plus or minus 15%), and taking into account the nameplate capacity of the turbines and turbine availability.

(ii) commencing in the fourth year of commercial operation, the net capacity factor used to calculate such price is the ANCF (as defined below) for the prior three years;

(iii) in each case, adjusted by the Federal Incentives Price Adjustment, if it applies.

- Under the Alternative Pricing Formula, the Target Bundled Energy Price will be the price that, using the financial model to be included in the power purchase agreement, generates a 12% project level return, where:

  (i) during the first three years of commercial operation, the net capacity factor used to calculate such price is the net capacity factor using the average of the past three years' P50 wind resource as measured using a defined wind resource measurement methodology and a fixed set of assumptions as to availability; and

  (ii) commencing in the fourth year of commercial operation, the net capacity factor used to calculate such price is the ANCF (as defined below) for the prior three years;

  (iii) in each case, adjusted by the Federal Incentives Price Adjustment, if it applies.

During the contract year, National Grid will make payments based on the Target Bundled Energy Price. At the end of each contract year, there will be an adjustment paid by one party to the other, calculated using the following two variables:-

- The Annual Net Capacity Factor ("ANCF"), which is the total energy delivered at the interconnection location (in MWh) divided by the theoretical maximum output of the wind farm if it were to operate at full output 100% of the time. ANCF will be calculated on an annual basis based on energy actually delivered in the prior 12 months; and

- The Target Net Capacity Factor Range ("TNCFR"), which is a range of net capacity factors determined as follows:

  (i) during the first three years of commercial operation, the TNCFR will be a range of percentages equal to the net capacity factor measured using the average of the past three years' P50 wind resource as measured using a defined wind resource measurement methodology and a fixed set of assumptions as to availability, plus or minus two percentage points; and

  (ii) commencing in the fourth year of commercial operation, the TNCFR will be a range of percentages equal to the average ANCF for the prior three years, plus or minus two percentage points.

Using these variables, the following adjustments will be calculated:

a. In the event the ANCF for a given year is greater than the high end of the TNCFR, DWBI shall reimburse National Grid an amount equal to the difference between the high end of the TNCFR and the ANCF multiplied by the nameplate capacity multiplied by 8760 hours per year multiplied by the Bundled Energy Price for that year. This can be expressed in the following formula:

Reimbursement to National Grid = (ANCF - maximum TNCFR) x (Nameplate Capacity) x 8760 x (Target Bundled Energy Price)

b. In the event the ANCF for a given year decreases below the low end of the TNCFR, National Grid shall reimburse DWBI an amount equal to the difference between ANCF and the low end of the TNCFR multiplied by the nameplate capacity multiplied by 8760 hours per year multiplied by the Bundled Energy Price for that year. This can be expressed in the following formula:

Reimbursement to Deepwater = (Minimum TNCFR - ANCF) x (Nameplate Capacity) x 8760 x (Target Bundled Energy Price)

4.7 PRUDENCY REVIEW CONSIDERATIONS

In submitting this bid, DWBI has assumed that the Rhode Island Public Utilities Commission will review and approve the power purchase agreement executed by the parties, and that the power purchase agreement will be enforceable for purposes of financing the Generation Project.

4.8 TERMINATION PROVISIONS

DWBI intends to negotiate a set of mutually-agreeable termination provisions with National Grid, to be included in the power purchase agreement. These include, but are not limited to, force majeure, regulatory change and the inability to obtain permits.

Schedule P-1

Fixed-Price Bid

Contract Year	Annual Contracted Energy (MWh)	Bundled Energy Price ($/MWh)	Energy Price ($/MWh)	REC Price ($/MWh)	Capacity Price ($/kW-mo.)	Summer qualifying capacity (MW)
2009		$ 229.03	$ 162.35	$ 60.92	$ 6.01	
2012	18,764	$ 253.93	$ 180.00	$ 67.54	$ 6.67	7.488
2013	91,139	$ 262.82	$ 186.30	$ 69.90	$ 6.90	7.488
2014	101,861	$ 272.02	$ 192.82	$ 72.35	$ 7.14	7.488
2015	107,222	$ 281.54	$ 199.57	$ 74.88	$ 7.39	7.488
2016	107,222	$ 291.39	$ 206.55	$ 77.50	$ 7.65	7.488
2017	107,222	$ 301.59	$ 213.78	$ 80.22	$ 7.92	7.488
2018	107,222	$ 312.14	$ 221.27	$ 83.02	$ 8.20	7.488
2019	107,222	$ 323.07	$ 229.01	$ 85.93	$ 8.48	7.488
2020	107,222	$ 334.38	$ 237.03	$ 88.94	$ 8.78	7.488
2021	107,222	$ 346.08	$ 245.32	$ 92.05	$ 9.09	7.488
2022	107,222	$ 358.19	$ 253.91	$ 95.27	$ 9.40	7.488
2023	107,222	$ 370.73	$ 262.79	$ 98.61	$ 9.73	7.488
2024	107,222	$ 383.71	$ 271.99	$ 102.06	$ 10.07	7.488
2025	107,222	$ 397.14	$ 281.51	$ 105.63	$ 10.43	7.488
2026	107,222	$ 411.04	$ 291.37	$ 109.33	$ 10.79	7.488
2027	107,222	$ 425.42	$ 301.56	$ 113.15	$ 11.17	7.488
2028	107,222	$ 440.31	$ 312.12	$ 117.11	$ 11.56	7.488
2029	107,222	$ 455.72	$ 323.04	$ 121.21	$ 11.96	7.488
2030	107,222	$ 471.67	$ 334.35	$ 125.45	$ 12.38	7.488
2031	107,222	$ 488.18	$ 346.05	$ 129.85	$ 12.82	7.488
2032	107,222	$ 505.27	$ 358.16	$ 134.39	$ 13.27	7.488

Prices shown above are subject to the Federal Incentive Price Adjustment and the Production-Based Price Adjustment.

Schedule P-2

Illustrative Structured Price

Contract Year	Annual Contracted Energy (MWh)	Bundled Energy Price ($/MWh)	Energy Price ($/MWh)	REC Price ($/MWh)	Capacity Price ($/kW-mo.)	Summer qualifying capacity (MW)
2009		$ 195.32	$ 128.98	$ 60.92	$ 6.01	
2012	18,764	$ 216.56	$ 143.00	$ 67.54	$ 6.67	7.488
2013	91,139	$ 224.14	$ 148.01	$ 69.90	$ 6.90	7.488
2014	101,861	$ 231.98	$ 153.19	$ 72.35	$ 7.14	7.488
2015	107,222	$ 240.10	$ 158.55	$ 74.88	$ 7.39	7.488
2016	107,222	$ 248.51	$ 164.10	$ 77.50	$ 7.65	7.488
2017	107,222	$ 257.21	$ 169.84	$ 80.22	$ 7.92	7.488
2018	107,222	$ 266.21	$ 175.78	$ 83.02	$ 8.20	7.488
2019	107,222	$ 275.52	$ 181.94	$ 85.93	$ 8.48	7.488
2020	107,222	$ 285.17	$ 188.30	$ 88.94	$ 8.78	7.488
2021	107,222	$ 295.15	$ 194.89	$ 92.05	$ 9.09	7.488
2022	107,222	$ 305.48	$ 201.72	$ 95.27	$ 9.40	7.488
2023	107,222	$ 316.17	$ 208.78	$ 98.61	$ 9.73	7.488
2024	107,222	$ 327.24	$ 216.08	$ 102.06	$ 10.07	7.488
2025	107,222	$ 338.69	$ 223.65	$ 105.63	$ 10.43	7.488
2026	107,222	$ 350.54	$ 231.47	$ 109.33	$ 10.79	7.488
2027	107,222	$ 362.81	$ 239.57	$ 113.15	$ 11.17	7.488
2028	107,222	$ 375.51	$ 247.96	$ 117.11	$ 11.56	7.488
2029	107,222	$ 388.65	$ 256.64	$ 121.21	$ 11.96	7.488
2030	107,222	$ 402.26	$ 265.62	$ 125.45	$ 12.38	7.488
2031	107,222	$ 416.34	$ 274.92	$ 129.85	$ 12.82	7.488
2032	107,222	$ 430.91	$ 284.54	$ 134.39	$ 13.27	7.488

Prices shown above assume a 42.5% capacity factor and a total Generation Project cost approximately 10.3% less than the total Generation Project cost assumed in Schedule P-1. In addition, these prices are subject to the Federal Incentive Price Adjustment and the Production-Based Price Adjustment.

Schedule P-2A

Model Pro Forma Inputs

Revenue Assumptions

Structured Price Composition		
Energy ($/MWH)	$	143.00
Capacity ($/kW-yr)	$	80.00
REC ($/MWH)	$	67.54
PPA power and capacity price escalator		3.5%
REC escalator		3.5%
PPA period (yrs)		20
CF for wind capacity payment		28.0%

O&M Cost Assumptions

SG&A	$	150,000
Wind farm site leasing cost (% of revenue)		1.0%
Property tax to town of New Shoreham	$	50,000
Substation payment	$	10,000
Miscellaneous	$	25,000
O&M Contingency ratio		10%
Insurance premium rate		1.0%
Transmission cable and substations maintenance	$	200,000
Foundation structure maintenance	$	500,000
Turbine warranty period (yrs)		5
Turbine full warranty rate		1.0%
Turbine contacted O&M rate		1.25%
Maintenance labor cost		
Number of technicians in warranty phase		4
Number of technicians post warranty phase		8
Labor rate	$	100,000
Cost escalator		2.5%

Wind Farm Assumptions

Number of turbines	8
Turbine size	3.6
Wind farm size	28.8
Net capacity factor	42.5%
Operating life (yrs)	20
Base case closing date	12/31/11
Construction start date	5/1/12
Construction period (months)	5
COD date	9/30/2012

Capital Cost Summary

Turbine Cost	$	66,378,000
Total construction cost	**$**	**167,584,792**
Closing fee	$	1,256,886
Interest during construction	$	3,142,215
Development cost	$	10,000,000
Total capital cost	**$**	**181,983,893**

Decommission

Annual decommission cash reserve deposit	$	350,000
Deposit yield		4.0%

Cash Flow Model

	Total	1/1/10	12/31/10	12/31/11	9/30/12	11/30/12	12/31/12	12/31/13
Capital expenditure	**(181,983,893)**	**$ (5,000,000)**	**$ (30,355,723)**	**$ (43,050,177)**	**$ (103,577,993)**	**$ -**	**$ -**	**$ -**
Revenue								
Total power production (MWH)		-	-	-	-	-	18,764	91,139
Energy		$ -	$ -	$ -	$ -	$ -	$ 2,683,241	$ 13,489,034
Capacity		$ -	$ -	$ -	$ -	$ -	$ 112,896	$ 567,544
REC		$ -	$ -	$ -	$ -	$ -	$ 1,267,315	$ 6,370,974
Total		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 4,063,452**	**$ 20,427,552**
O&M expenses								
Operational cost								
SG&A		$ -	$ -	$ -	$ -	$ -	$ (37,500)	$ (153,750)
Wind farm site leasing cost		$ -	$ -	$ -	$ -	$ -	$ (27,961)	$ (140,566)
Property tax		$ -	$ -	$ -	$ -	$ -	$ (12,500)	$ (51,250)
Substation payment		$ -	$ -	$ -	$ -	$ -	$ (2,500)	$ (10,250)
Miscellaneous		$ -	$ -	$ -	$ -	$ -	$ (6,250)	$ (25,625)
Contingency		$ -	$ -	$ -	$ -	$ -	$ (8,671)	$ (38,144)
Insurance premium		$ -	$ -	$ -	$ -	$ -	$ (418,962)	$ (1,717,744)
Total operational cost		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (514,344)**	**$ (2,137,329)**
Maintenance cost								
Transmission cable and substations		$ -	$ -	$ -	$ -	$ -	$ (50,000)	$ (205,000)
Foundation structure		$ -	$ -	$ -	$ -	$ -	$ (125,000)	$ (512,500)
Turbine full warranty fee		$ -	$ -	$ -	$ -	$ -	$ (165,945)	$ (663,780)
Turbine O&M contract fee		$ -	$ -	$ -	$ -	$ -	$ (207,431)	$ (829,725)
Post waranty turbine maintenance cost (excluding parts)		$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance labor cost		$ -	$ -	$ -	$ -	$ -	$ (100,000)	$ (410,000)
Turbine parts replacement cost		$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total maintenance cost		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (648,376)**	**$ (2,621,005)**
Total O&M expenses		$ -	$ -	$ -	$ -	$ -	$ (1,162,721)	$ (4,758,334)
O&M expenses per MWH		$ -	$ -	$ -	$ -	$ -	$ (62)	$ (52)
EBITDA		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,900,731**	**$ 15,669,218**
Pre-tax cash flow		**$ (5,000,000)**	**$ (30,355,723)**	**$ (43,050,177)**	**$ (103,577,993)**	**$ -**	**$ 2,900,731**	**$ 15,669,218**
Pre-tax unleveraged IRR	**10.40%**							
Decommission cash reserve deposit		$ -	$ -	$ -	$ -	$ -	$ -	$ 350,000
Cummulative decommission reserve		$ -	$ -	$ -	$ -	$ -	$ -	$ 350,000
Cash for distribution		$ -	$ -	$ -	$ -	$ -	$ 2,900,731	$ 15,319,218
Depreciation		$ -	$ -	$ -	$ -	$ -	$ (6,945,734)	$ (52,886,154)
Amortization		$ -	$ -	$ -	$ -	$ -	$ -	$ -
Taxable income		$ -	$ -	$ -	$ -	$ -	$ (4,045,003)	$ (37,216,936)
Tax benefits/(liability)		$ -	$ -	$ -	$ -	$ -	$ 1,415,751	$ 13,025,928
ITC		$ -	$ -	$ -	$ -	$ 46,709,358	$ -	$ -
Project free cash flow								
EBITDA		$ -	$ -	$ -	$ -	$ -	$ 2,900,731	$ 15,669,218
(+) Tax benefits(liability)		$ -	$ -	$ -	$ -	$ -	$ 1,415,751	$ 13,025,928
(+) ITC		$ -	$ -	$ -	$ -	$ 46,709,358	$ -	$ -
(-) Decommission cash reserve deposit		$ -	$ -	$ -	$ -	$ -	$ -	$ (350,000)
(-) Capital expenditure		$ (5,000,000)	$ (30,355,723)	$ (43,050,177)	$ (103,577,993)	$ -	$ -	$ -
Project free cash flow		$ (5,000,000)	$ (30,355,723)	$ (43,050,177)	$ (103,577,993)	$ 46,709,358	$ 4,316,482	$ 28,345,146
Project IRR	**12.01%**							

12/31/14	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
101,861	107,222	107,222	107,222	107,222	107,222	107,222	107,222	107,222	107,222
$ 15,603,638	$ 16,999,753	$ 17,594,744	$ 18,210,560	$ 18,847,930	$ 19,507,608	$ 20,190,374	$ 20,897,037	$ 21,628,433	$ 22,385,428
$ 656,515	$ 715,256	$ 740,290	$ 766,200	$ 793,017	$ 820,773	$ 849,500	$ 879,232	$ 910,005	$ 941,856
$ 7,369,718	$ 8,029,114	$ 8,310,133	$ 8,600,988	$ 8,902,022	$ 9,213,593	$ 9,536,069	$ 9,869,831	$ 10,215,275	$ 10,572,810
$ 23,629,871	**$ 25,744,123**	**$ 26,645,167**	**$ 27,577,748**	**$ 28,542,970**	**$ 29,541,973**	**$ 30,575,943**	**$ 31,646,101**	**$ 32,753,714**	**$ 33,900,094**
$ (157,594)	$ (161,534)	$ (165,572)	$ (169,711)	$ (173,954)	$ (178,303)	$ (182,760)	$ (187,329)	$ (192,013)	$ (196,813)
$ (162,602)	$ (177,150)	$ (183,350)	$ (189,768)	$ (196,409)	$ (203,284)	$ (210,399)	$ (217,763)	$ (225,384)	$ (233,273)
$ (52,531)	$ (53,845)	$ (55,191)	$ (56,570)	$ (57,985)	$ (59,434)	$ (60,920)	$ (62,443)	$ (64,004)	$ (65,604)
$ (10,506)	$ (10,769)	$ (11,038)	$ (11,314)	$ (11,597)	$ (11,887)	$ (12,184)	$ (12,489)	$ (12,801)	$ (13,121)
$ (26,266)	$ (26,922)	$ (27,595)	$ (28,285)	$ (28,992)	$ (29,717)	$ (30,460)	$ (31,222)	$ (32,002)	$ (32,802)
$ (40,950)	$ (43,022)	$ (44,275)	$ (45,565)	$ (46,894)	$ (48,262)	$ (49,672)	$ (51,125)	$ (52,620)	$ (54,161)
$ (1,760,688)	$ (1,804,705)	$ (1,849,823)	$ (1,896,068)	$ (1,943,470)	$ (1,992,057)	$ (2,041,858)	$ (2,092,904)	$ (2,145,227)	$ (2,198,858)
$ (2,211,136)	**$ (2,277,946)**	**$ (2,336,844)**	**$ (2,397,281)**	**$ (2,459,301)**	**$ (2,522,944)**	**$ (2,588,254)**	**$ (2,655,274)**	**$ (2,724,052)**	**$ (2,794,632)**
$ (210,125)	$ (215,378)	$ (220,763)	$ (226,282)	$ (231,939)	$ (237,737)	$ (243,681)	$ (249,773)	$ (256,017)	$ (262,417)
$ (525,313)	$ (538,445)	$ (551,906)	$ (565,704)	$ (579,847)	$ (594,343)	$ (609,201)	$ (624,431)	$ (640,042)	$ (656,043)
$ (663,780)	$ (663,780)	$ (663,780)	$ (497,835)	$ -	$ -	$ -	$ -	$ -	$ -
$ (829,725)	$ (829,725)	$ (829,725)	$ (622,294)	$ -	$ -	$ -	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ (1,148,132)	$ (1,176,835)	$ (1,206,256)	$ (1,236,413)	$ (1,267,323)	$ (1,299,006)
$ (420,250)	$ (430,756)	$ (441,525)	$ (452,563)	$ (927,755)	$ (950,949)	$ (974,722)	$ (999,090)	$ (1,024,068)	$ (1,049,669)
$ -	$ -	$ -	$ -	$ (1,154,672)	$ (1,183,539)	$ (1,213,127)	$ (1,243,455)	$ (1,274,542)	$ (1,741,874)
$ (2,649,193)	**$ (2,678,085)**	**$ (2,707,699)**	**$ (2,364,678)**	**$ (4,042,344)**	**$ (4,143,403)**	**$ (4,246,988)**	**$ (4,353,162)**	**$ (4,461,991)**	**$ (5,009,010)**
$ (4,860,328)	$ (4,956,031)	$ (5,044,543)	$ (4,761,959)	$ (6,501,645)	$ (6,666,347)	$ (6,835,241)	$ (7,008,437)	$ (7,186,043)	$ (7,803,642)
$ (48)	$ (46)	$ (47)	$ (44)	$ (61)	$ (62)	$ (64)	$ (65)	$ (67)	$ (73)
$ 18,769,543	**$ 20,788,092**	**$ 21,600,625**	**$ 22,815,789**	**$ 22,041,325**	**$ 22,875,627**	**$ 23,740,701**	**$ 24,637,664**	**$ 25,567,671**	**$ 26,096,452**
$ 18,769,543	**$ 20,788,092**	**$ 21,600,625**	**$ 22,815,789**	**$ 22,041,325**	**$ 22,875,627**	**$ 23,740,701**	**$ 24,637,664**	**$ 25,567,671**	**$ 26,096,452**
$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000
$ 714,000	$ 1,092,560	$ 1,486,262	$ 1,895,713	$ 2,321,541	$ 2,764,403	$ 3,224,979	$ 3,703,978	$ 4,202,137	$ 4,720,223
$ 18,419,543	$ 20,438,092	$ 21,250,625	$ 22,465,789	$ 21,691,325	$ 22,525,627	$ 23,390,701	$ 24,287,664	$ 25,217,671	$ 25,746,452
$ (32,510,416)	$ (20,207,101)	$ (16,375,936)	$ (14,376,252)	$ (1,552,164)	$ (1,552,164)	$ (1,552,164)	$ (1,552,164)	$ (1,552,164)	$ (1,552,164)
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ (13,740,873)	$ 580,991	$ 5,224,688	$ 8,439,537	$ 20,489,161	$ 21,323,463	$ 22,188,537	$ 23,085,500	$ 24,015,507	$ 24,544,288
$ 4,809,306	$ (203,347)	$ (1,828,641)	$ (2,953,838)	$ (7,171,206)	$ (7,463,212)	$ (7,765,988)	$ (8,079,925)	$ (8,405,427)	$ (8,590,501)
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 18,769,543	$ 20,788,092	$ 21,600,625	$ 22,815,789	$ 22,041,325	$ 22,875,627	$ 23,740,701	$ 24,637,664	$ 25,567,671	$ 26,096,452
$ 4,809,306	$ (203,347)	$ (1,828,641)	$ (2,953,838)	$ (7,171,206)	$ (7,463,212)	$ (7,765,988)	$ (8,079,925)	$ (8,405,427)	$ (8,590,501)
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 23,228,849	$ 20,234,745	$ 19,421,984	$ 19,511,951	$ 14,520,118	$ 15,062,415	$ 15,624,713	$ 16,207,739	$ 16,812,243	$ 17,155,951

12/31/24	12/31/25	12/31/26	12/31/27	12/31/28	12/31/29	12/31/30	12/31/31	12/31/32	12/31/33	12/31/34
$ -	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
107,222	107,222	107,222	107,222	107,222	107,222	107,222	107,222	107,222	-	-
$ 23,168,918	$ 23,979,830	$ 24,819,125	$ 25,687,794	$ 26,586,867	$ 27,517,407	$ 28,480,516	$ 29,477,334	$ 30,509,041	$ -	$ -
$ 974,821	$ 1,008,939	$ 1,044,252	$ 1,080,801	$ 1,118,629	$ 1,157,781	$ 1,198,303	$ 1,240,244	$ 1,283,653	$ -	$ -
$ 10,942,858	$ 11,325,858	$ 11,722,263	$ 12,132,543	$ 12,557,182	$ 12,996,683	$ 13,451,567	$ 13,922,372	$ 14,409,655	$ -	$ -
$ 35,086,597	**$ 36,314,628**	**$ 37,585,640**	**$ 38,901,138**	**$ 40,262,677**	**$ 41,671,871**	**$ 43,130,387**	**$ 44,639,950**	**$ 46,202,348**	**$ -**	**$ -**
$ (201,733)	$ (206,777)	$ (211,946)	$ (217,245)	$ (222,676)	$ (228,243)	$ (233,949)	$ (239,798)	$ (245,792)	$ -	$ -
$ (241,437)	$ (249,888)	$ (258,634)	$ (267,686)	$ (277,055)	$ (286,752)	$ (296,788)	$ (307,176)	$ (317,927)	$ -	$ -
$ (67,244)	$ (68,926)	$ (70,649)	$ (72,415)	$ (74,225)	$ (76,081)	$ (77,983)	$ (79,933)	$ (81,931)	$ -	$ -
$ (13,449)	$ (13,785)	$ (14,130)	$ (14,483)	$ (14,845)	$ (15,216)	$ (15,597)	$ (15,987)	$ (16,386)	$ -	$ -
$ (33,622)	$ (34,463)	$ (35,324)	$ (36,207)	$ (37,113)	$ (38,040)	$ (38,991)	$ (39,966)	$ (40,965)	$ -	$ -
$ (55,749)	$ (57,384)	$ (59,068)	$ (60,804)	$ (62,591)	$ (64,433)	$ (66,331)	$ (68,286)	$ (70,300)	$ -	$ -
$ (2,253,829)	$ (2,310,175)	$ (2,367,929)	$ (2,427,127)	$ (2,487,806)	$ (2,550,001)	$ (2,613,751)	$ (2,679,095)	$ (2,746,072)	$ -	$ -
$ (2,867,064)	**$ (2,941,396)**	**$ (3,017,680)**	**$ (3,095,967)**	**$ (3,176,311)**	**$ (3,258,766)**	**$ (3,343,390)**	**$ (3,430,239)**	**$ (3,519,374)**	**$ -**	**$ -**
$ (268,978)	$ (275,702)	$ (282,595)	$ (289,660)	$ (296,901)	$ (304,324)	$ (311,932)	$ (319,730)	$ (327,723)	$ -	$ -
$ (672,444)	$ (689,256)	$ (706,487)	$ (724,149)	$ (742,253)	$ (760,809)	$ (779,829)	$ (799,325)	$ (819,308)	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ (1,331,481)	$ (1,364,768)	$ (1,398,887)	$ (1,433,860)	$ (1,469,706)	$ (1,506,449)	$ (1,544,110)	$ (1,582,713)	$ (1,622,280)	$ -	$ -
$ (1,075,911)	$ (1,102,809)	$ (1,130,379)	$ (1,158,639)	$ (1,187,604)	$ (1,217,295)	$ (1,247,727)	$ (1,278,920)	$ (1,310,893)	$ -	$ -
$ (1,785,421)	$ (1,830,056)	$ (1,875,808)	$ (1,922,703)	$ (2,463,463)	$ (2,525,049)	$ (2,588,176)	$ (2,652,880)	$ (2,719,202)	$ -	$ -
$ (5,134,235)	**$ (5,262,591)**	**$ (5,394,156)**	**$ (5,529,009)**	**$ (6,159,927)**	**$ (6,313,925)**	**$ (6,471,774)**	**$ (6,633,568)**	**$ (6,799,407)**	**$ -**	**$ -**
$ (8,001,299)	$ (8,203,987)	$ (8,411,836)	$ (8,624,977)	$ (9,336,238)	$ (9,572,692)	$ (9,815,163)	$ (10,063,807)	$ (10,318,781)	$ -	$ -
$ (75)	$ (77)	$ (78)	$ (80)	$ (87)	$ (89)	$ (92)	$ (94)	$ (96)	$ -	$ -
$ 27,085,298	**$ 28,110,641**	**$ 29,173,805**	**$ 30,276,161**	**$ 30,926,439**	**$ 32,099,179**	**$ 33,315,223**	**$ 34,576,143**	**$ 35,883,567**	**$ -**	**$ -**
$ 27,085,298	**$ 28,110,641**	**$ 29,173,805**	**$ 30,276,161**	**$ 30,926,439**	**$ 32,099,179**	**$ 33,315,223**	**$ 34,576,143**	**$ 35,883,567**	**$ -**	**$ -**
$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ -	$ -
$ 5,259,032	$ 5,819,393	$ 6,402,169	$ 7,008,256	$ 7,638,586	$ 8,294,129	$ 8,975,895	$ 9,684,930	$ 10,422,328	$ -	$ -
$ 26,735,298	$ 27,760,641	$ 28,823,805	$ 29,926,161	$ 30,576,439	$ 31,749,179	$ 32,965,223	$ 34,226,143	$ 35,533,567	$ -	$ -
$ (1,552,164)	$ (1,552,164)	$ (1,552,164)	$ (1,358,143)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 25,533,134	$ 26,558,477	$ 27,621,641	$ 28,918,018	$ 30,926,439	$ 32,099,179	$ 33,315,223	$ 34,576,143	$ 35,883,567	$ -	$ -
$ (8,936,597)	$ (9,295,467)	$ (9,667,574)	$ (10,121,306)	$ (10,824,254)	$ (11,234,713)	$ (11,660,328)	$ (12,101,650)	$ (12,559,249)	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 27,085,298	$ 28,110,641	$ 29,173,805	$ 30,276,161	$ 30,926,439	$ 32,099,179	$ 33,315,223	$ 34,576,143	$ 35,883,567	$ -	$ -
$ (8,936,597)	$ (9,295,467)	$ (9,667,574)	$ (10,121,306)	$ (10,824,254)	$ (11,234,713)	$ (11,660,328)	$ (12,101,650)	$ (12,559,249)	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ (350,000)	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 17,798,701	$ 18,465,174	$ 19,156,230	$ 19,804,855	$ 19,752,186	$ 20,514,467	$ 21,304,895	$ 22,124,493	$ 22,974,319	$ -	$ -

SECTION 5: OPERATIONAL PARAMETERS

5.1 OPERATING CHARACTERISTICS

Nameplate Capacity	28.8 MW
Net Capacity at Average Site conditions	11.5 MW
Net Capacity Offered Under this RFP	11.5 MW[6]

Deepwater Wind believes we have sized the project – and its expected output – within the limits defined in National Grid's RFP; we are prepared to address any questions or concerns National Grid may have regarding the wind farm's projected electrical output.

ENERGY GENERATION

Expected Gross Annual Energy Production	121,225 MWh/yr
Expected Net Annual Energy Production	101,091 MWh/yr

Expected Peak and Off-Peak Monthly Production[7]

Month	On-Peak (MWh/Mon)	Off-Peak (MWh/Mon)
January	6370	4054
February	5380	3339
March	6100	3610
April	5760	3074
May	5728	2954
June	5358	2865
July	4703	2294
August	4069	2213
September	3737	2263
October	5019	2977
November	5515	3472
December	6238	3999
Total	**63,976**	**37,115**

The calculation of MWh in the above table is based upon ISO-NE's definition of On-Peak and Off-Peak hours, under which "On-Peak Hours" are defined as "hours ending 8:00AM through 11:00PM on all non-NERC holiday weekdays" and "Off-Peak Hours" are defined as "all hours that are not On-Peak hours".

[6] Deepwater Wind believes we have sized the project – and its expected output – within the limits defined in National Grid's RFP; we are prepared to address any questions or concerns National Grid may have regarding the wind farm's projected electrical output.
[7] If the level of generation is expected to vary over the life of the contract the bidder should provide an expanded table for the term of the contract.

Annual Degradation Rate (if any) and basis. Over time, wind turbine generators will experience a degradation of output as a result of mechanical and environmental factors. Based on AWS Truewind's ("AWST") projections, DWBI has assumed that the net effect of such degradation, averaged over the Generation Project's economic life, will be approximately 4.4% of the Project's output. Please note that this is **not** an annual degradation value, but rather the total degradation averaged over the Generation Project's life.

5.2 AVAILABILITY

Availability for Intermittent Resources
Expected Annual Availability __93.7%___(turbine availability)

Availability for Other Resources

Identify the Expected Equivalent Availability Factor (NERC Definition)
(annual equivalent hours available/8760) __N / A____

Equivalent Forced Outage Rate (NERC Definition) __N / A_____

$$\frac{\text{(forced out hours + equivalent forced derated hours)}}{\text{(forced out hrs + svc hrs + equiv. forced derated hrs during reserve shutdown)}}$$

5.3 HEAT RATE (IF APPLICABLE)

Not Applicable

5.4 OPERATING MODE

Intermittent Only	____X____
Define parameters of operation)	- cut-in: 3.5 m/s - cut-out: 25 m/s
Must Run (at full load)	_________
Dispatchable (specify operating constraints)	_________

5.5 MAINTENANCE OUTAGE REQUIREMENTS

The typical annual routine maintenance for utility-scale wind turbine generators takes approximately five to seven days, and is typically undertaken during periods of low winds, which in the northeastern US (including the outer continental shelf) means the summer months.

For example, one of the turbine models being considered for use in the Block Island Wind Farm is the Siemens[8] SWT 3.6 107 (which has a 3.6 MW generator nameplate rating and a rotor diameter of 107 meters). The annual warranty service check conducted by Siemens on this machine includes over 300 specific checks, inspections, or adjustment actions covering all the equipment supplied under the Turbine Supply Agreement. This service is provided by a team of four Siemens service technicians. (See Section 11 for a complete description of DWBI's operation and maintenance regime.) This 7-day period represents a reduction in the turbine's annual availability of only 2 percent.

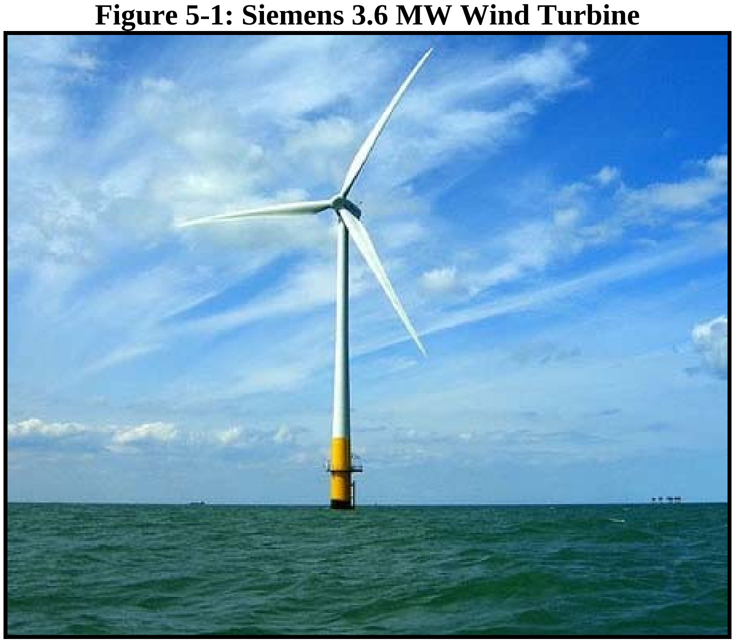
5.6 OPERATING CONSTRAINTS

Approximately five to seven days of routine maintenance of each of the wind turbine generators is typically undertaken during periods of low winds, which in the northeastern US (including the outer continental shelf) means the summer months. The relatively strong seasonality of the wind resource in this region (i.e., with significantly more power output in winter months than summer) means that most of the required routine maintenance tasks can be accomplished with minimal impact on the wind project's overall availability to generate, as measured on an annual average basis. As discussed in Section 5.7 below, the annual availability rate for the Block Island Wind Farm's turbines is expected to be 93.7 percent.

5.7 RELIABILITY

DWBI anticipates building the Block Island Wind Farm using the Siemens 3.6 MW (SWT 3.6 107) (*Figure 5-1*). Siemens is a world-leader in offshore wind turbine technology and service, with currently over 637 MW of installed capacity and an anticipated 1500 MW installed by 2012.

Figure 5-1: Siemens 3.6 MW Wind Turbine



[8]In DWBI's and DWBT's response to National Grid's RFP, we use data associated with Siemens wind turbine generators for discussion and evaluation purposes. Deepwater is currently engaging in intensive negotiations with at least three manufacturers of offshore wind turbine generators; once a turbine manufacturer is selected we will be able to present to National Grid all relevant data for that specific turbine model.

The Siemens Corporation, one of the leading wind turbine manufacturers in the world, has over 7,000 units of their various MW-scale turbines now in operation around the world.

The Siemens 3.6 MW turbine includes the following advanced features:

- A variable-speed rotor for maximum aerodynamic efficiency also minimizes the dynamic loads on the transmission system;
- Single piece blades of fiberglass-reinforced epoxy resin, manufactured by Siemens itself
- A failsafe mechanical brake on the high-speed shaft;
- Independent fail-safe pitching mechanism capable of feathering each of the blades up to 80 degrees for shutdown purposes; and
- An asynchronous generator with stator windings specially designed for high efficiency at partial loads.

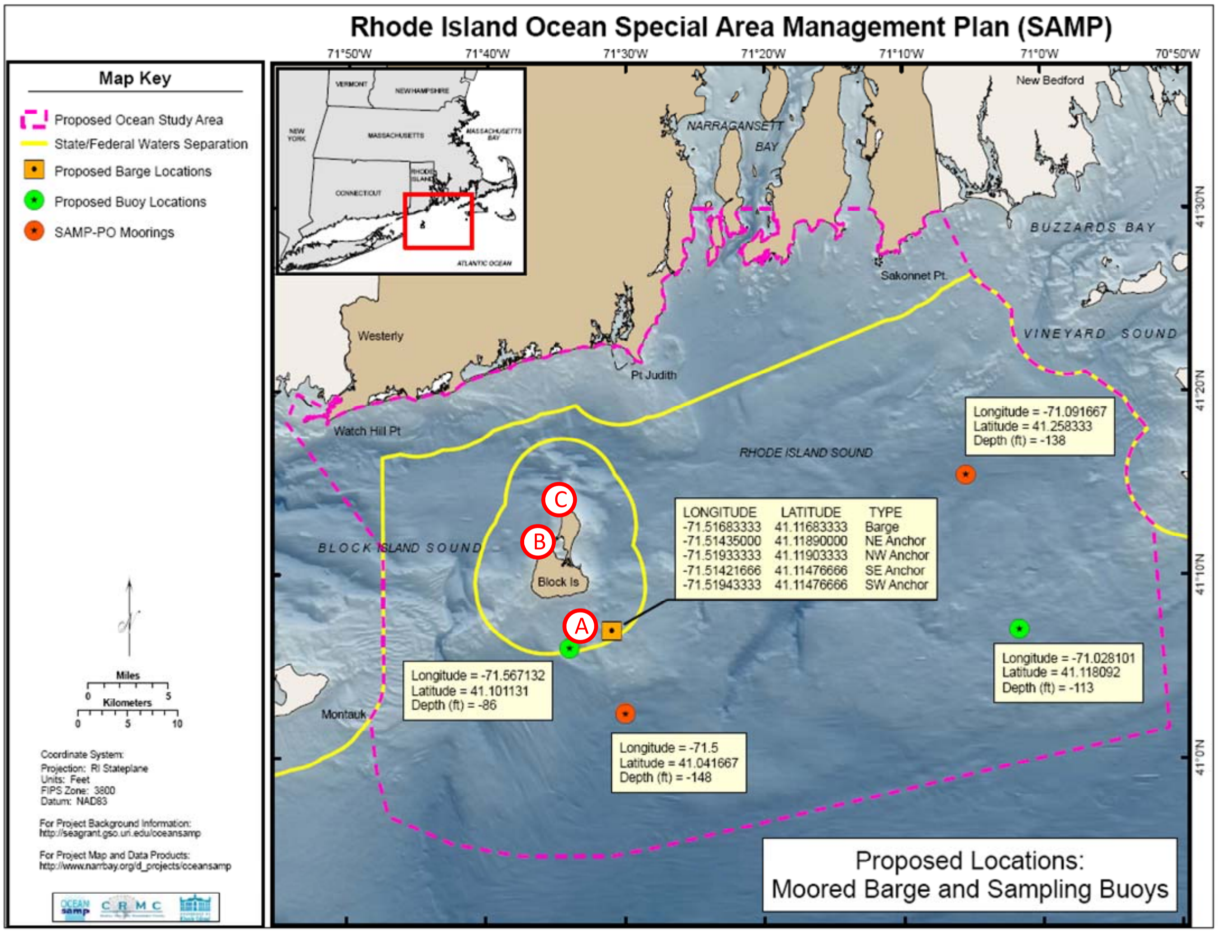
SECTION 6: ENERGY RESOURCE PLAN

As a wind energy project, the Block Island Wind Farm will use eight wind turbine generators to produce up to 28.8 MW of electric power from the local wind resource. The project requires no fossil fuel supply. Determination of the existing wind resource is an important step in the development of the Block Island Wind Farm. DWBI has designed and is implementing a wind resource assessment program, including the installation of a meteorological tower (Met Tower), which will generate a technically-accurate and financeable data set.

DWBI has worked closely with two of the wind industry's leading consultants – AWST and Garrad Hassan Group Limited ("GH") – to design a wind resource assessment program consisting of three discrete phases: (1) a review of the pertinent literature and publically available existing data collected from areas proximate to the project site; (2) meso-scale modeling of the anticipated output of the project; and (3) an in-situ monitoring campaign.

In lieu of siting a permanent Met Tower in the Project site, DWBI's in-situ monitoring campaign will undertake seasonal monitoring offshore in the Project site (*Figure 6-1* at A) and year-round monitoring on Block Island (*Figure 6-1* at B and C).

Figure 6-1: Locations of DWBI's wind monitoring campaign



1. **Baseline Land-Based Monitoring**
    a. 60 meter Tilt-up tower at New Harbor entrance (already deployed)
    b. Vertical LiDAR at the Block Island North Lighthouse (being validated on Block Island)
2. **Offshore Monitoring**
    a. Buoy deployed at the Generation Project site for 1 to 2 years (being validated on Block Island)
    b. Vertical LiDAR on barge offshore
    c. Monitoring at Buzzard's Bay CMAN station (currently being contracted)
3. **Data Analysis**
    a. AWST monitoring and validation of equipment
    b. WeatherFlow collection and analysis of existing data
4. **Modeling**
    a. AWST MesoMap, Rutgers RUWRF, and WeatherFlow RAMS

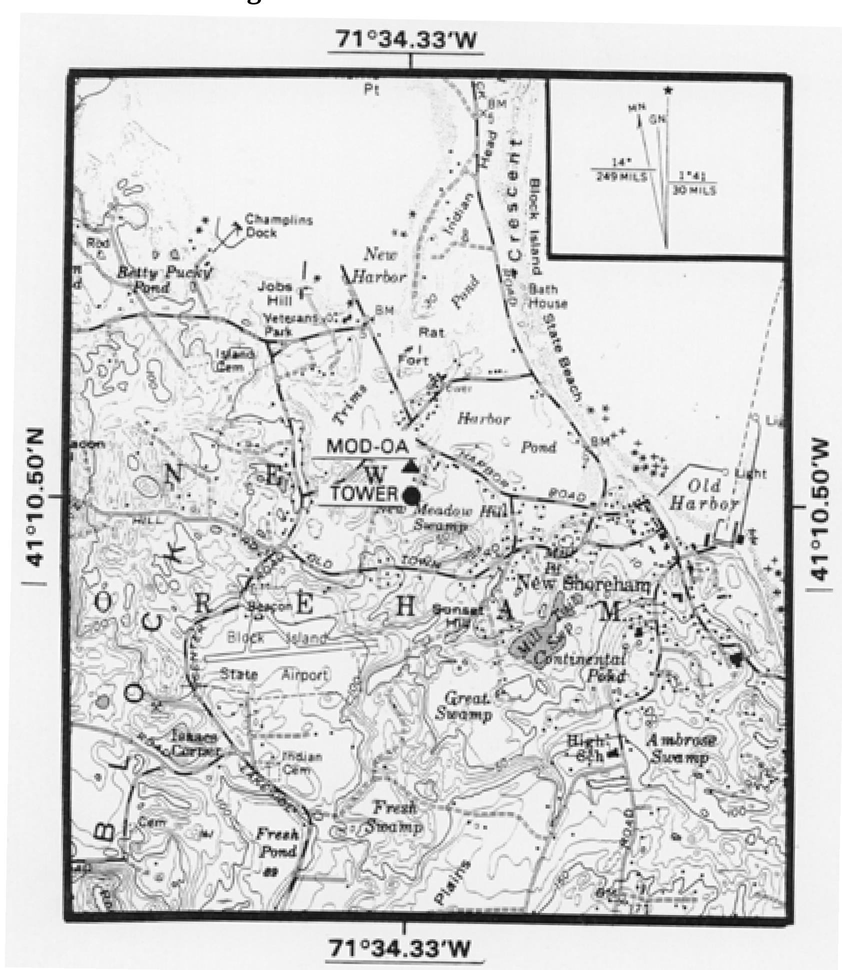
AWST and GH have concluded that it is commercially acceptable to extrapolate from the lower wind speeds seen by land-based monitoring to the higher wind speeds expected offshore. The designed assessment campaign includes multiple redundant monitoring methods, as described below. The information collected from these sites will provide DWBI with a dataset that will support the placement of construction financing for the Generation Project.

Both AWST and GH have agreed that this extrapolation method can be used to estimate hub-height wind resources at collection site (A) from data gathered at collection sites (B) and (C). GH has further confirmed that, if the above program is executed, and all of the equipment functions according to specification, then this program will yield a financeable wind resource data set.

6.1 REVIEW OF EXISTING DATA

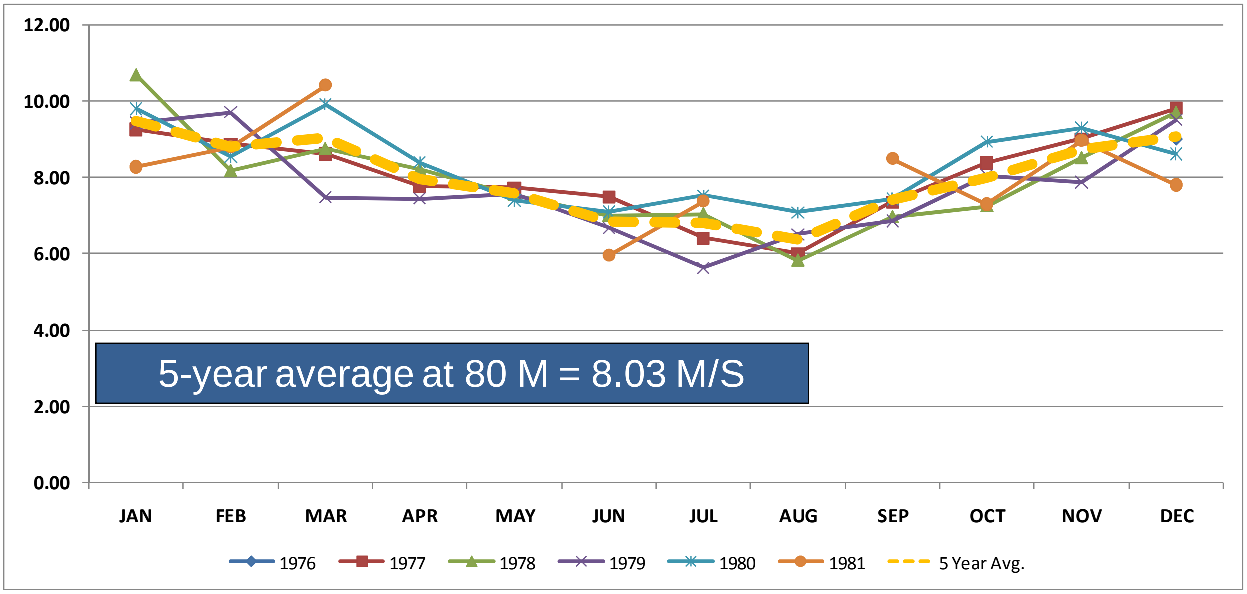
DWBI began our wind resource assessment program by identifying the existing data sets that could be used for wind resource modeling. This research identified two data sets that were proximate to the Generation Project site. The first data set was collected from a United States Department of Energy ("DOE") tower that was located at the Block Island Power Company from December of 1976 through December of 1981. During this period, DOE collected data from two monitoring levels: 9.1 meters and 45.7 meters. *Figure 6-2* below shows the location of the DOE tower on Block Island.

Figure 6-2: Location of DOE Site



As a result of the inland location of this tower, and the unique topography of Block Island, this data set is likely not representative of the Generation Project site. As can be seen from *Figure 6-3*, below, which shows the wind speed scaled up to an 80 m hub height using the 1/7th power law, and despite the land effects, the DOE data does show an average wind resource of 8.03 m/s. While this is data is not a financeable data set, it does provide evidence that a commercial-grade wind resource will be available at the Generation Project site.

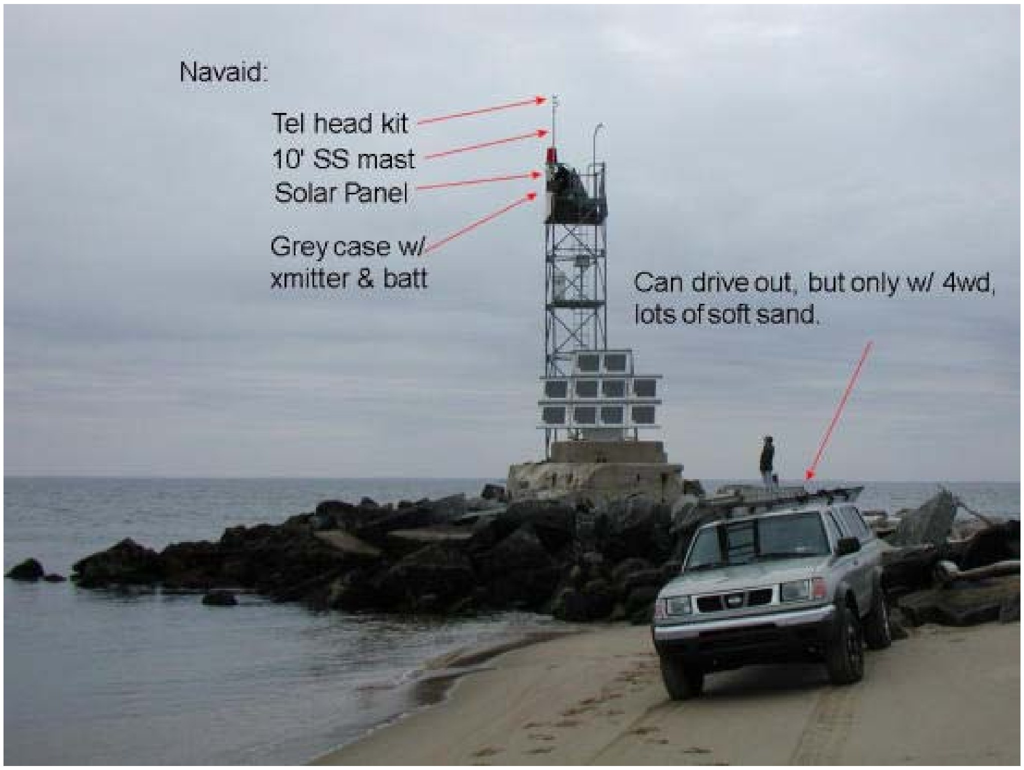
Figure 6-3: Mean Wind Speed at DOE Site



M/S at 80	JAN 1	FEB 2	MAR 3	APR 4	MAY 5	JUN 6	JUL 7	AUG 8	SEP 9	OCT 10	NOV 11	DEC 12
1976												9.00
1977	9.27	8.88	8.63	7.78	7.74	7.49	6.40	6.01	7.36	8.38	9.02	9.82
1978	10.69	8.17	8.75	8.22	7.55	7.00	7.04	5.82	6.96	7.26	8.51	9.70
1979	9.43	9.71	7.48	7.44	7.59	6.67	5.63	6.51	6.87	8.06	7.88	9.52
1980	9.80	8.55	9.92	8.39	7.40	7.10	7.52	7.08	7.44	8.94	9.30	8.62
1981	8.27	8.80	10.42			5.95	7.38		8.49	7.29	8.98	7.80
5 Year Avg.	9.49	8.82	9.04	7.96	7.57	6.84	6.80	6.36	7.43	7.99	8.74	9.08

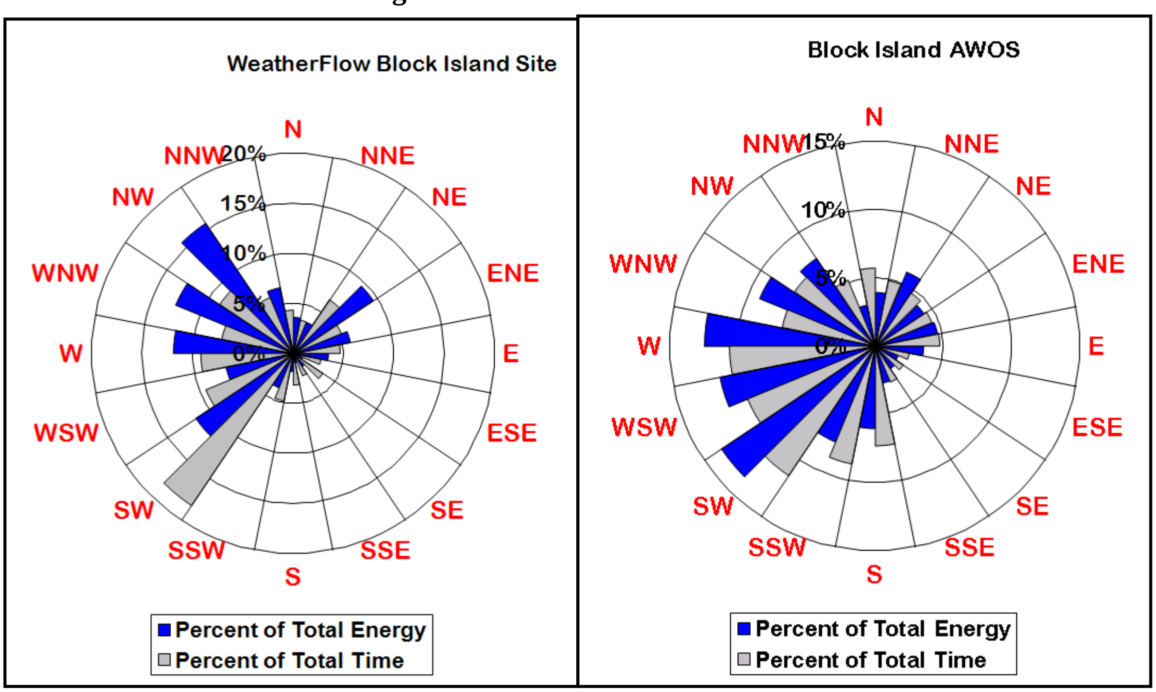
In addition to the DOE data, DWBI also identified a data set from the weather station at the end of the Block Island jetty, as shown in *Figure 6-4*, below. This weather station is near DWBI's recently-erected Met Tower and provides a long-term reference point to the tower data. These data have been included in DWBI's modeling efforts and will be used in the validation of the Met Tower data.

Figure 6-4: WeatherFlow Weather Station at Block Island Jetty



DWBI also collected data from the Block Island Airport Weather Observation Station (AWOS). *Figure 6-5* shows the wind roses from the WeatherFlow and AWOS stations. Both the WeatherFlow and the AWOS station show the primary energy production direction sectors are from the west-northwest, west and west-southwest. The WeatherFlow station also suggests a significant northwest direction sector.

Figure 6-5: Observed Wind Roses



6.2 MESO-SCALE MODELING

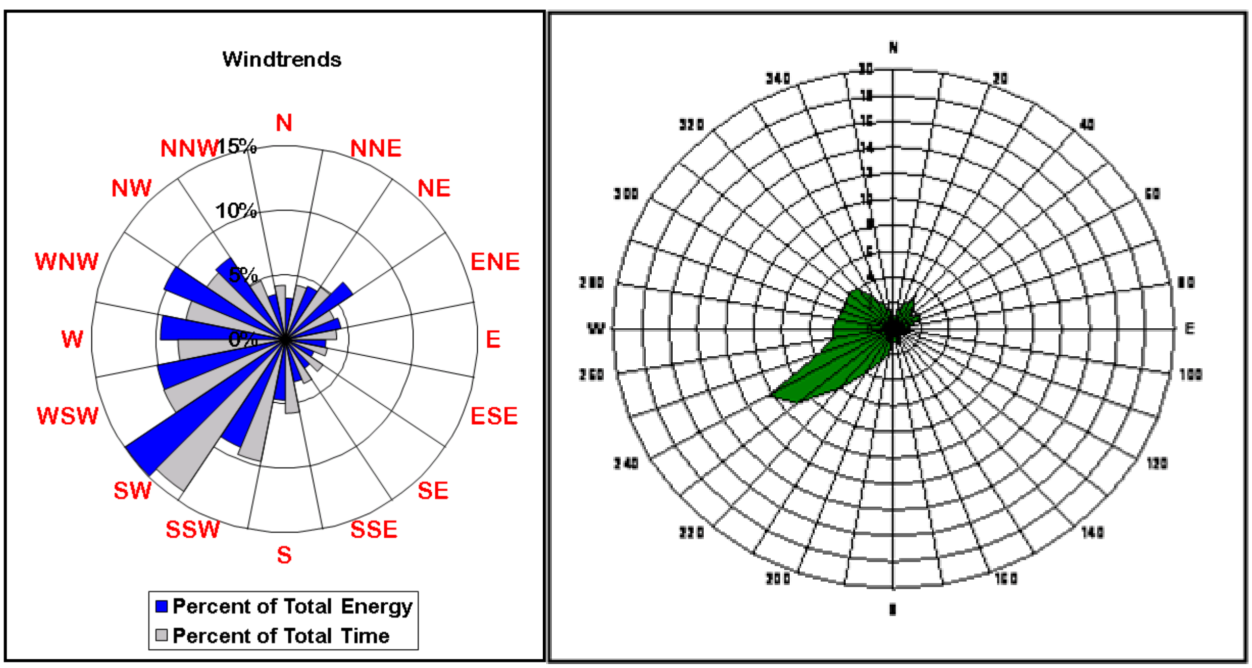
DWBI engaged AWST to prepare a preliminary wind resource forecast and energy production estimate, using the wind resource estimates, together with a site-specific air density, the gross and net capacity factors were estimated using the Siemens 3.6 MW (IEC class Ia, 3.6 MW, 107 m rotor diameter) turbines. The energy production estimates assume typical loss factors (e.g., wake, electrical, high wind hysteresis, maintenance downtime, and icing and blade degradation) experienced by wind projects in similar climates. Using its Windtrends MesoMap system, AWST has predicted the long-term mean annual wind speed at 80 meters above ground at a resolution of 200 m.

Concurrently, DWBI engaged Rutgers University Coastal Ocean Observation Lab ("RU COOL") to prepare a similarly analysis using their RUWRF model.

Both model runs yielded similar results. The analysis concluded that the predicted average free wind speed of the Block Island site at 80 m is expected to range between 8.8 m/s to 9.2 m/s, with an overall estimated site average of 9.1 m/s. For reference see the attachment modeling summary from AWST, attached as Appendix A.[9]

The directional distribution of the wind resource is an important factor to consider when designing the wind project to minimize the wake interference between turbines. The estimated frequency and energy distribution by direction plot (wind rose) is shown in *Figure 6-5*. The AWST wind / power rose is on the left and the RU COOL power rose is on the right. The model indicates that the prevailing winds occur with the greatest frequency out of the southwest, which is consistent with the WeatherFlow and AWOS data shown in *Figure 6-4* above.

Figure 6-6: Modeled Wind Roses



RU COOL found that potential wind power production for the Generation Project site appears to be most significant when winds are blowing from the SW sector suggesting stronger and more consistent wind

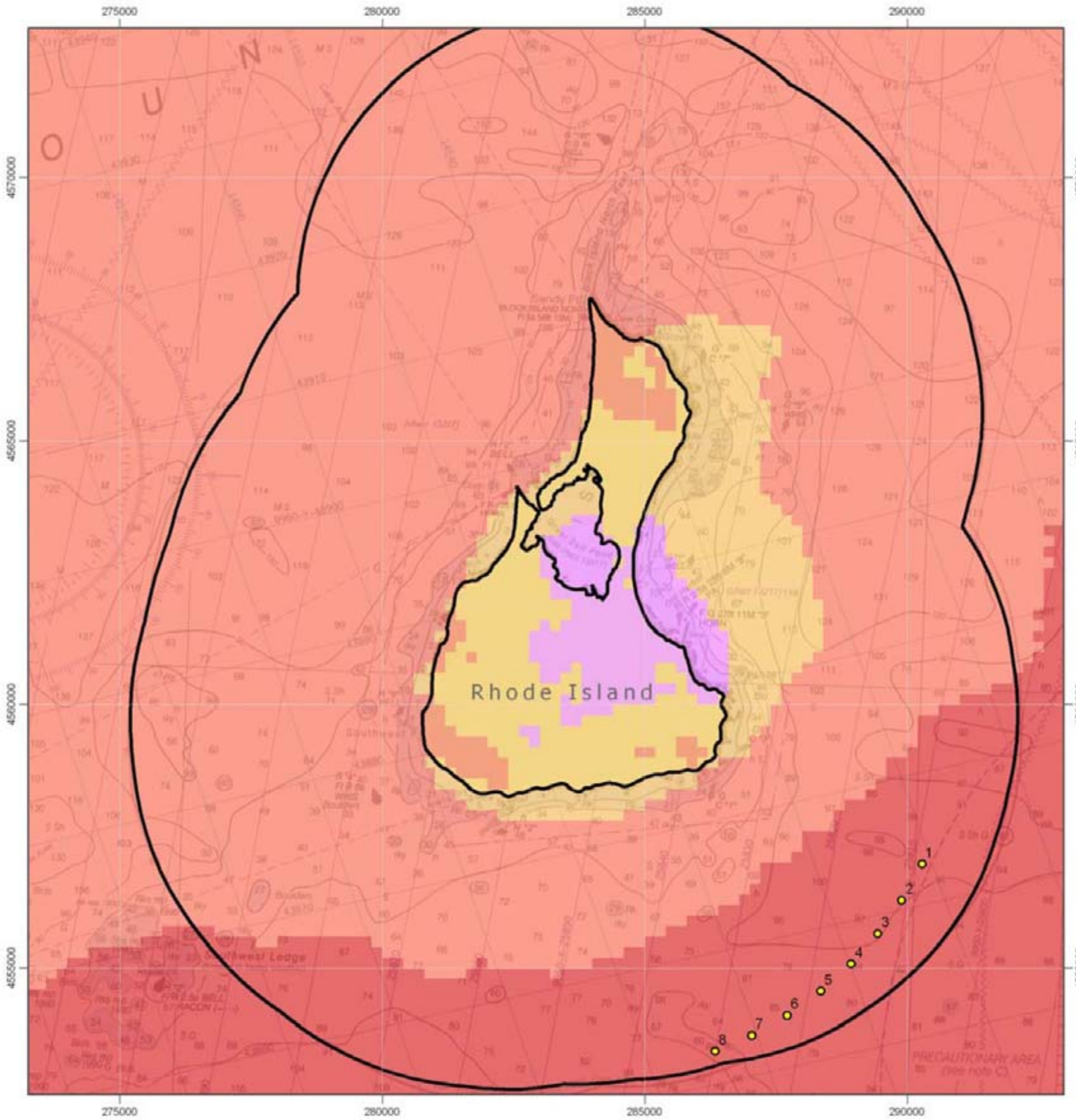
[9] There is a .02% difference between AWST report and the pro forma energy production estimates.

intensities associated with this sector when compared to the other compass sectors. Generally, stronger winds occur when winds blows from the NW sector and on occasion from the NE sector. Stronger SW winds at the offshore SE site could possibly be attributed to reduced northwesterly or westerly flow blowing across Block Island creating a "hydraulic jump" resulting in reduced wind intensities on the leeward side of the island extending to some distance offshore. Additionally, wind intensities could be increased during southerly flow. This southerly flow enhancement is caused by relatively large thermal gradients that occur between the island and adjacent waters. The strongest thermal differences generally occur during the spring and summer seasons and can extend into the fall season. This enhanced flow occurrence is somewhat verified by both the wind direction and potential energy frequency distributions. Thus, RU COOL concluded that Block Island's geographical location and orientation in respect to adjacent mainland areas and coastal/offshore waters are very conducive for producing these local flow perturbations.

MESOMAP CONFIGURATION

The standard MesoMap configuration was used to produce the wind resource map shown in *Figure 6-7* below. The mesoscale model (MASS) simulated regional weather patterns with a grid spacing of 2.5 km. The microscale model (WindMap) simulated the localized effects of topography and surface roughness on a grid spacing of 200 m. The source of topographic data was the National Elevation Dataset, a digital terrain model produced on a 30 m grid by the US Geological Survey (USGS). The source of land cover data was the National Land Cover Dataset, which is derived from Landsat imagery, and was also produced by the USGS on a 30 m grid. Both data sets are of very high quality.

Figure 6-7: Wind Resource Map

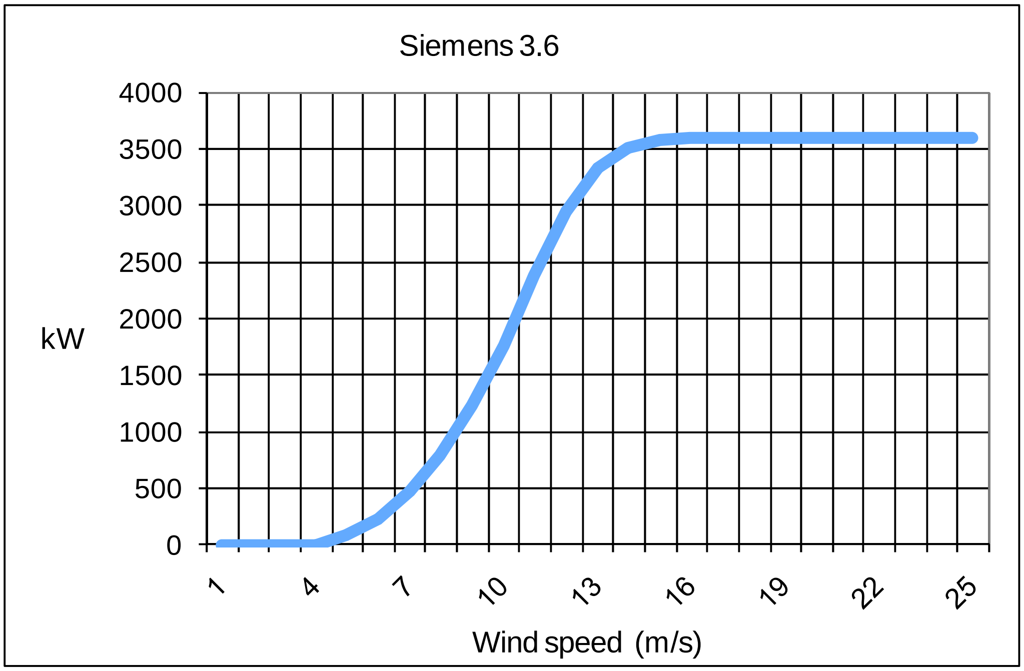


The results of this study indicate that the Block Island project site has a wind resource that is suitable for commercial wind energy development.

PRELIMINARY PLANT CAPACITY ESTIMATES

AWST estimated both the gross and net capacity factor for the Block Island site. For the gross estimates, AWST used a site-adjusted power curve for the Siemens 3.6 turbines, as shown in *Figure 6-8* below. The turbine power curves were interpolated to the site air density, which is estimated to be 1.24 kg/m3 at 80 m.

Figure 6-8: Turbine Power Curve



Using this adjusted power curve, AWST determined the preliminary energy production estimate using data from a wind resource model, which estimated losses of approximately 16.3%:

- Wake Effect = 1.3%
- Availability = 6.3%
  - (high wind events, collection/substation, utility grid, re-start after outage)
- Electrical = 4.0%
  - (efficiency)
- Turbine Performance = 0.3%
  - (high wind control hysteresis)
- Environmental = 5.2%
  - (icing, blade degradation, site access, lightning)
- Curtailments = 0.0%

Based on these loss factors, AWST's modeling suggests the following plant output statistics:

Gross Plant Production	121,225
Net Plant Production	101,091
Gross Capacity Factor	48%
Net Capacity Factor	40%
Average Total Loss	16.6%
Wind Speed Uncertainty	10.0%
Gross Energy Uncertainty	16.0%
Net Energy Uncertainty	20.0%

Further, AWST developed the 12 X 24 power production estimate shown in *Figure 6-9* below.

Figure 6-9: 12 X 24 Wind Resource Estimate

Mean (m/s)													
Hour	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
00:00 - 01:00	10.64	9.42	8.81	8.11	8.14	8.09	7.60	6.88	6.54	8.17	9.16	10.49	8.50
01:00 - 02:00	10.49	9.63	8.99	8.58	7.82	7.89	7.05	6.78	6.53	8.38	9.15	9.78	8.42
02:00 - 03:00	10.16	9.85	8.97	8.40	7.49	7.84	7.05	6.74	6.85	7.90	9.04	9.78	8.34
03:00 - 04:00	10.36	9.42	8.80	8.66	7.60	7.26	6.88	6.68	6.76	8.02	8.54	9.85	8.24
04:00 - 05:00	10.27	8.95	9.00	8.75	7.61	7.52	6.66	6.68	6.77	8.42	8.04	9.86	8.21
05:00 - 06:00	10.34	9.14	8.53	8.76	7.66	7.70	6.75	6.59	6.75	8.53	8.32	9.67	8.23
06:00 - 07:00	10.19	9.30	8.64	8.69	7.61	7.56	6.97	6.69	6.92	8.70	8.04	9.58	8.24
07:00 - 08:00	9.84	9.41	8.89	9.28	8.19	8.12	7.05	6.99	7.17	8.58	8.86	9.65	8.50
08:00 - 09:00	10.37	9.73	9.35	9.52	8.35	8.32	7.50	7.13	7.48	9.15	9.47	9.78	8.85
09:00 - 10:00	10.90	9.95	9.46	9.59	8.70	8.45	7.78	8.02	7.90	9.27	9.90	10.26	9.18
10:00 - 11:00	11.01	10.14	9.58	10.28	8.87	8.87	8.08	7.97	8.11	9.34	10.14	10.30	9.39
11:00 - 12:00	10.75	10.21	10.14	10.50	9.32	9.02	8.43	8.13	8.32	9.66	9.98	10.36	9.57
12:00 - 13:00	10.30	10.13	10.30	10.80	9.99	9.53	8.95	8.70	8.29	9.48	9.71	10.87	9.75
13:00 - 14:00	10.34	10.62	10.54	11.34	10.60	9.98	9.41	8.93	8.51	9.54	9.94	10.64	10.03
14:00 - 15:00	10.56	10.76	11.01	11.51	10.85	10.12	9.48	9.37	8.82	9.82	9.79	10.50	10.22
15:00 - 16:00	10.33	11.13	11.00	11.40	10.77	10.37	9.65	9.22	8.92	9.63	9.64	10.18	10.19
16:00 - 17:00	9.95	10.84	10.88	11.01	10.46	10.37	9.59	9.20	8.34	9.12	9.68	9.76	9.93
17:00 - 18:00	9.88	10.29	10.41	10.14	10.45	10.05	9.20	8.44	7.81	8.80	9.53	10.10	9.59
18:00 - 19:00	10.43	9.61	9.63	9.56	10.14	9.63	8.67	7.50	7.28	8.56	9.13	9.93	9.17
19:00 - 20:00	10.21	9.69	9.32	9.24	9.33	9.22	8.05	7.42	7.37	8.79	9.04	10.50	9.02
20:00 - 21:00	10.31	9.57	9.13	9.05	9.03	9.22	8.03	7.02	7.46	8.77	9.86	10.25	8.98
21:00 - 22:00	10.13	10.31	9.10	8.86	8.76	8.87	8.12	7.20	7.35	8.75	9.55	10.49	8.96
22:00 - 23:00	10.41	10.28	8.75	8.74	8.50	8.51	7.97	7.07	7.32	8.51	9.24	10.37	8.81
23:00 - 24:00	10.50	9.49	8.97	8.03	8.03	8.38	7.48	6.95	6.95	8.31	8.81	9.97	8.49
Average	10.36	9.91	9.51	9.53	8.93	8.79	8.02	7.60	7.52	8.84	9.27	10.12	9.03

WIND RESOURCE ESTIMATE UNCERTAINTY

The accuracy of the data, which is derived from the MesoMap system, has been verified by comparing map predictions with independent observations for over 1000 stations around the world. This validation program is by far the most extensive ever carried out for a wind mapping system. The National Renewable Energy Laboratory has been closely involved in the validation to ensure its objectivity. In simple wind regimes (such as open plains or well offshore), the root-mean-square (rms) error has typically been found to be 5% or less. In complex wind regimes such as Wyoming and coastal Brazil, the rms error (after accounting for uncertainty in the measurements) is typically 0.3-0.5 m/s, or 5-7% of the mean speed. This is comparable to the error margin associated with one year of measurement from a 50 m mast. It should be stressed that the mean wind speed at any particular location may depart substantially from the predicted values, especially where the elevation, exposure, or surface roughness differs from that assumed by the model, or where the model scale is inadequate to resolve significant features of the terrain.

6.3 IN-SITU MONITORING CAMPAIGN

Notwithstanding all the existing data and the modeling results, DWBI has been advised that a “bankable” wind resource assessment program will require considerable in-situ monitoring. Therefore, DWBI has already begun a comprehensive in-situ monitoring campaign consisting of the following components.

BASELINE LAND-BASED MONITORING

DWBI has begun to generate a baseline dataset from Block Island which can be applied to the offshore site. First, DWBI has deployed one 60 m Met Tower at the entrance to New Harbor. This Met Tower, shown being installed in *Figure 6-10*, includes monitoring equipment at four levels.

Figure 6-10: Met Tower Erection

DWBI has also purchased two vertical LiDAR units and is currently validating these advanced monitoring devices at the Met Tower site, as shown in *Figure 6-11* below.

Figure 6-11: LiDARs

Upon the completion of the validation program, DWBI will deploy one Vertical LiDAR at the North Light for a period of 1 to 2 years, following a re-validation campaign at the Met Tower. The locations of the Met Tower and the Vertical LiDAR will allow for the capture of data at the two best locations on Block Island. Both AWST and GH recommend this approach and these locations.

OFFSHORE MONITORING

DWBI will complement the baseline data with data representative of the wind farm site, by launching a comprehensive offshore monitoring campaign. In cooperation with the State's Ocean Special Area Management Plan (SAMP), DWBI will collect data from 3 m meteorological buoy located off the southern coast of Block Island, near the wind farm area, for a period of 1 to 2 years (AWST provided documentation showing a high correlation of data collected on a buoy data and that on a fixed platform).

In addition to the buoy, DWBI's offshore monitoring campaign will include two applications of LiDAR. First, DWBI will deploy a vertical LiDAR on a moored barge during the summer and part of the shoulder periods. This will provide vertical profile data for the wind farm site.

DWBI will also deploy new anemometry equipment on the Buzzard's bay CMAN Station, including the second Vertical LiDAR. This will provide a year-round reference point for the monitoring campaign and useful data for determining wind shear and atmospheric stability.

DATA ANALYSIS

AWST is collecting and processing data from the deployed equipment, and in parallel, WeatherFlow is collecting available datasets (to the extent applicable) from the NERACOOS system, the WeatherFlow system, the Montauk Point buoy and the Buzzard Bay CMAN station.

MODELING

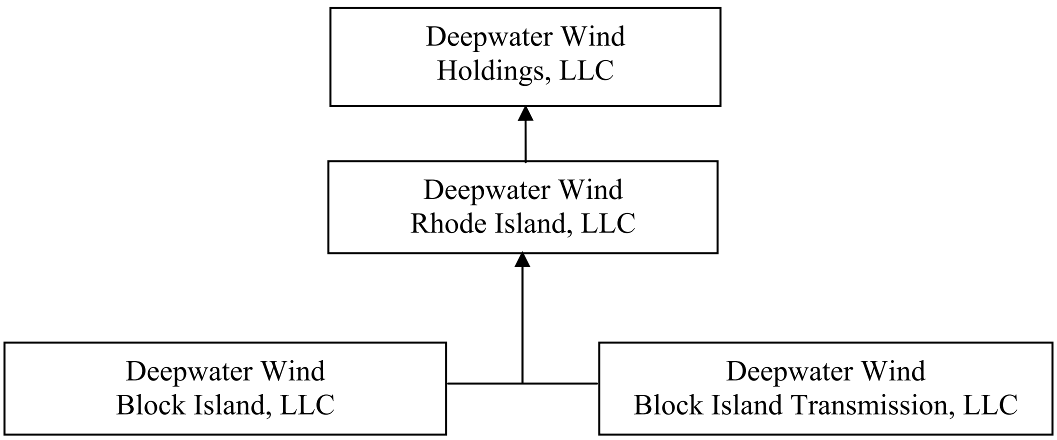
Upon the completion of the data collection period, DWBI will commission three meso-scale meteorological model runs using collected data, including: (1) AWST's MesoMap; (2) Rutgers' RUWRF; and (3) WeatherFlow's RAMS. These models will all provide an updated energy production estimate which will be used for final proformas.

SECTION 7: FINANCING PLAN

7.1 CORPORATE STRUCTURE

DWBI was formed as a Delaware limited liability company by filing a certificate of formation with the Secretary of State of Delaware on August 24, 2009. The sole member of DWBI is DWRI, a Delaware limited liability company which is wholly owned by Deepwater, a Delaware limited liability company.

Figure 7-1: Organizational chart of the corporate structure



Deepwater's investment and development expertise will support all aspects of the Generation Project's development, finance, construction, and operations and maintenance.

The membership interests in Deepwater are owned by:

- An entity of the D. E. Shaw group;
- First Wind Holdings, LLC;
- An entity of the Ospraie Group;
- An entity of Paragon Capital; and,
- Management.

The D. E. Shaw group is a global investment and technology development firm with more than 1,700 employees; approximately $29 billion in investment and committed capital as of July 1, 2009; and offices in North America, Europe, and Asia. Since its organization in 1988, the firm has earned an international reputation for financial innovation and technological leadership. The D. E. Shaw group is engaged in a broad spectrum of investment activities, including direct capital and private equity activities and has significant recent experience in the financing and development of power generating assets.

First Wind Holdings, LLC, a significant minority investor in Deepwater, is an independent North American wind energy company focused exclusively on the development, ownership and operation of wind energy projects since 2002. Currently, First Wind is focused on developing wind energy projects in the northeastern and western regions of the continental U.S. and in Hawaii. First Wind employs 179 professionals in eight states and has a depth of expertise in project development areas such as wind project development, generator lead expansion, meteorology, engineering, permitting, construction, finance, law, asset management, maintenance, and operations. First Wind also has direct experience within current and targeted markets in dealing with land control issues, establishing stakeholder relationships, managing meteorological programs, conducting community initiatives, and developing transmission solutions.

Ospraie is an investment management firm focused on creating unique, research-driven investment solutions in basic industry and commodity sectors. Ospraie Special Opportunities Fund has over $1 billion in assets under management. Ospraie Special Opportunities Fund seeks high total returns through strategic acquisitions of differentiated assets in under-addressed areas of the basic industry and commodity sectors. Leveraging Ospraie's proprietary network of relationships, the fund targets investments that feature value-added fundamentals and operating partners. Ospraie's broad experience in commodities, basic industries and the overall financial markets position the fund to effectively source, manage and realize its investments.

Paragon Energy Holdings, LLC, formed in 2003, provides advisory services to investors in the energy sector, including commercial restructuring, pricing, and buy/sell side advisory services. In addition, Paragon originates and manages principal energy investments, providing investment level management and oversight, contract restructuring, operational/budget controls, commodity risk management, and financing, analytical, and development resources. The current portfolio of energy assets managed by Paragon is valued at over $350 million. Paragon's affiliate, CP Energy Group, LLC, is a leading financial advisory firm serving investors and sponsors in renewable energy.

DWBI's intends to fund the development of the Generation Project through equity subscriptions. DWBI's and Deepwater executives have successfully raised millions of dollars in development funding and have the requisite experience to raise any necessary development capital for the Generation Project from Deepwater's current sponsors and from new investors.

7.2 CREDIT RATING

Not applicable.

7.3 FINANCING PLAN

Deepwater believes that the Project is financially viable and that DWBI can access sufficient capital to satisfy the equity requirements of the Project. DWBI's principals, together with Deepwater's sponsors and affiliates, have the requisite experience to raise additional capital for well-developed projects with attractive risk/return profiles and are well positioned to draw on that expertise to arrange the financing for the Generation Project.

Deepwater anticipates a financial structure for the structure of the Block Island Wind Farm similar to that used for onshore wind facilities. First Wind Holdings, LLC, a significant minority investor in Deepwater, has financed and constructed five operating wind farms, as described in greater detail in Section 7.4 below. Deepwater will draw on First Wind's project finance experience in structuring the financing of the Generation Project.

The Generation Project's development costs will be met through equity contributions made by existing sponsors and from new investors. This construction-period debt is likely to be secured by the Generation Project's wind turbine generators. At commercial operation, the construction debt will replaced by a cash infusion made by a tax equity investor who will 'purchase' the depreciation deductions and other tax benefits associated with the Block Island Wind Farm. In addition, DWBI currently contemplates applying for and receiving a cash grant in lieu of the investment tax credit under the program authorized by Section 1603 of the American Recovery and Reinvestment Act, the benefit of which will be passed on to ratepayers.

Apart from the ownership arrangement described above, no other agreements are in place with respect to equity ownership in the Generation Project, or any other financing arrangement. As financing arrangements will not be finalized until the Generation Project is ready to commence construction, no material conditions precedent are pending at this time.

7.4 PROJECT SPONSOR EXPERIENCE

First Wind Holdings, LLC a significant minority investor in Deepwater, is an independent North American wind energy company focused exclusively on the development, ownership and operation of wind energy projects since 2002, as described above. As of August 31, 2009, First Wind had 274 MW of operating capacity and another 204 MW under construction with a scheduled commercial operation date ("COD") in November 2009. Included in First Wind's current operating capacity are five successful wind energy projects:

1. *Kaheawa Wind Power I*: 30 MW, which is the largest operating utility-scale wind energy project in Hawaii.
2. *Mars Hill:* 42 MW, which was the largest operating utility-scale wind energy project in New England, until First Wind commissioned its Stetson I wind energy project in January 2009.
3. *Stetson I:* 57 MW, which is the largest operating utility-scale wind energy project in New England, and like Mars Hill, located in Maine.
4. *Steel Winds*: 20 MW, which is the first wind energy project built on a brownfield site, located in New York.
5. *Cohocton:* 125 MW, commissioned in January 2009, located in New York.
6. *Under Construction: Milford I*: at 204 MW, Milford I will be the largest wind energy project in Utah.

First Wind, which is jointly owned by the D. E. Shaw group, Madison Dearborn Partners and First Wind management, has successfully raised in excess of $2 billion of capital to build its five current operating projects, including a $376 million construction financing for its Milford I project in the difficult financing markets of early 2009. In 2009, First Wind also refinanced turbine supply loans at its Cohocton and Stetson projects with longer term financings as part of a restructuring with its key relationship bank. First Wind also raised $115 million of mezzanine capital from a non-traditional financing source secured by a residual interest in its Cohocton, Stetson and Steel Winds projects.

Deepwater will draw on First Wind's technical, development and commercial financing expertise. First Wind's Chief Executive Officer, Paul Gaynor, and President, Michael Alvarez, are Deepwater board members and have been actively involved in the preparation of this proposal.

Deepwater Wind Rhode Island has been selected as the preferred developer in Rhode Island to develop offshore wind projects in the state.

Another Deepwater affiliate, **Garden State Offshore Energy** (a partnership with an unregulated affiliate of Public Service Electric and Gas of New Jersey), was selected by the State of New Jersey's to be its preferred offshore wind developer; and as part of its development of the New Jersey project, Deepwater has secured (from the U.S. Interior Department's Minerals Management Service) the first submerged lands lease on the outer continental shelf in order to construct an offshore meteorological tower.

7.5 FINANCIAL VIABILITY

Deepwater believes that the Generation Project is financially viable and that DWBI can access sufficient capital to satisfy the equity requirements of the Generation Project. DWBI's principals, together with Deepwater's sponsors and affiliates, have the requisite experience to raise additional capital for well-developed projects with attractive risk/return profiles and are well positioned to draw on that expertise to arrange the financing for the Generation Project.

7.6 FINANCIAL STATEMENTS

DWBI does not prepare audited financial statements. The most recent audited financial statements for Deepwater are attached as *Appendix B*.

DWBI does not contemplate providing credit support beyond that required by the project financing arrangements.

7.7 FINANCIAL SECURITY

Not applicable.

7.8 CREDIT ISSUES

Not applicable.

7.9 FEDERAL TAX INCENTIVES

The Section 48 Investment Tax Credit together with the related Section 1603 cash grant program are important subsidies the availability of which are a critical element of the prices tendered in this proposal. As further detailed in Section 4.0, DWBI proposes to fully pass through to National Grid's ratepayers, in the form of lower pricing for electricity produced by the Generation Project, the economic benefit of the Section 48 ITC and cash grant. Any loss of the Generation Project's eligibility for the ITC or cash grant—e.g., due to a delay in the permitting schedule that pushed the Generation Project's commercial operating date from 2012 into 2013—would increase the price of power from the facility (barring a change in the federal tax law that extends availability of the ITC and beyond December 21, 2012), as detailed herein in Section 4.0. The Block Island Wind Farm also qualifies, on a mutually exclusive basis, for the Production tax credit. However the economic value of the Production Tax Credit is less than that of the Investment Tax Credit when coupled with the cash grant.

7.10 PENDING LITIGATION

DWBI has no pending or threatening litigation or investigation related to the Block Island Wind Farm.

7.11 PRO FORMA

Please see the indicative pro forma provided in Section 4.0 with respect to the Alternative Pricing Formula.

SECTION 8: INTERCONNECTION AND TRANSMISSION

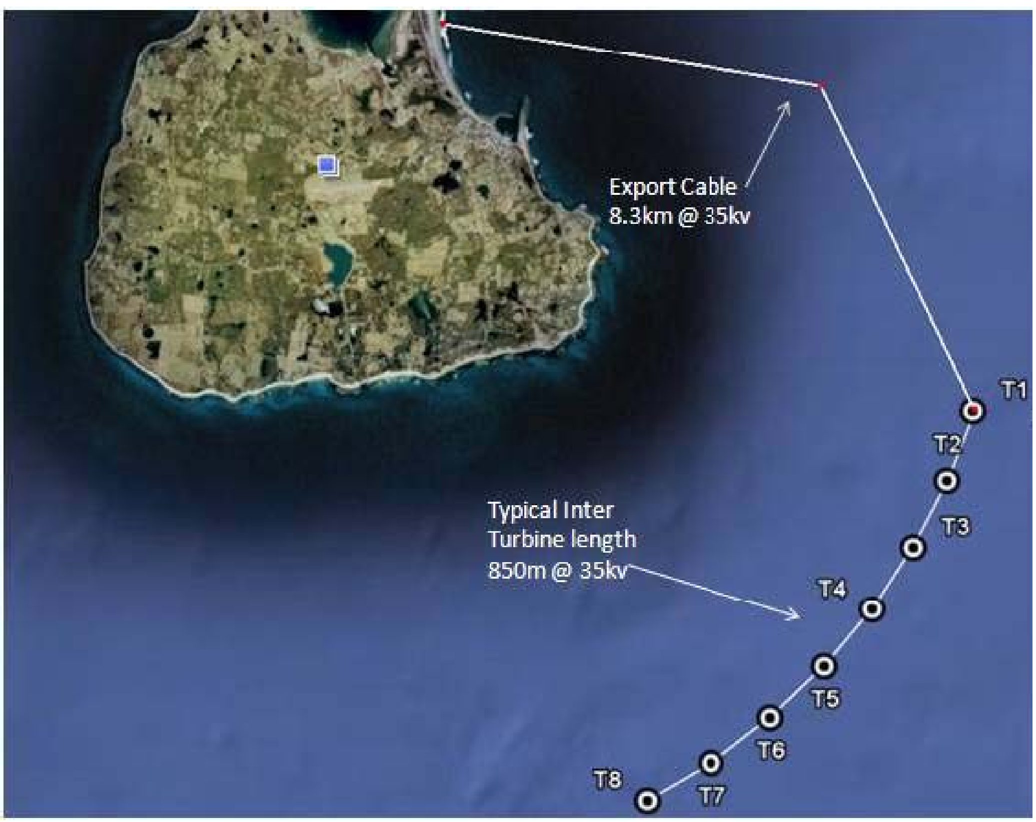
DWBI will sell and deliver the power generated by the Generation Project at a new transmission substation to be constructed on Block Island (the "Transmission Substation"). National Grid will accept title to and risk of loss for the power generated by the Block Island Wind Farm at this Transmission Substation and will be responsible for the transmission of such power to the mainland.

DWBI has developed a conceptual design for a transmission system, including the Transmission Substation (collectively, the "Transmission Project"), which will allow power to flow both (i) from Block Island to the mainland and (ii) from the mainland to Block Island. DWBI has coordinated with National Grid and BIPCo staff to identify points of interconnection and is currently working with the RI Department of Transportation "RIDOT"), as well as local jurisdictions, to determine feasible rights-of-way for the Transmission Project. Further, DWBI has recently submitted an interconnection request to ISO-NE and anticipates commencing a feasibility study shortly. DWBI anticipates building, owning and transferring the Transmission Project to NGRID upon the commencement of its commercial operations, in accordance with the attached "*Proposal for Cable System*".

8.1 GENERAL ARRANGEMENT

The Block Island Wind Farm will be interconnected with the Transmission Substation via a 35 kV submarine cable system connecting the Wind Turbine Generators in a radial inter-turbine configuration (the "Inter-Array Cable"), and a 35 kV submarine cable connecting the wind farm to the Transmission Substation (the "Export Cable"). *Figure 8-1* below shows the general arrangement of the Block Island Wind Farm, the Inter-Array Cable and the Export Cable.

Figure 8-1: Inter-Array and Export Cable Systems



8.2 SITE CONTROL AND RIGHTS-OF-WAY

The Inter-Array Cable and Export Cable will require multiple forms of site control and rights-of-way on Block Island and offshore. DWBI has engaged Ecology and Environment ("E&E"), AECOM Environment ("AECOM") and Careba Mott MacDonald ("Careba") to assist with the identification, qualification and acquisition of the required site control and rights of way. Additionally, DWBI and our consultants have begun consultations with the RIDOT and the Town of New Shoreham regarding the necessary site control and permitting requirements for their jurisdictions.

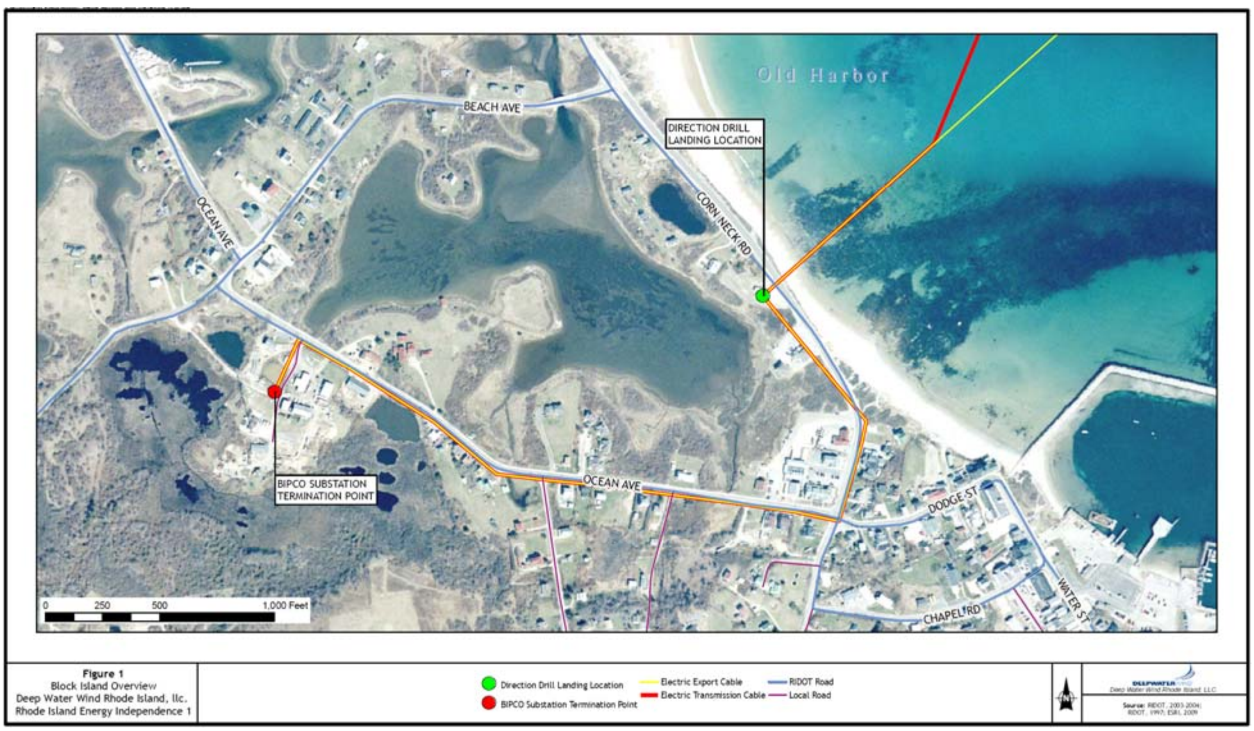
8.2.1 BLOCK ISLAND

DWBI is currently working to identify and secure site control for the following:

- Horizontal Directional Drilling ("HDD") for the Export Cable landfall;
- Cable junction box (same location as HDD), which connects the offshore portion of the Export Cable with its upland counterpart;
- Generation Substation; and
- Upland portions of Export Cable.

Based on DWBI and AECOM's preliminary investigations, *Figure 8-2* below shows the current general arrangement of the cable systems on Block Island. This design is subject to change based on further engineering.

Figure 8-2: Block Island Interconnection Point



Preliminary discussions have confirmed that RIDOT owns the major roads on Block Island and that RIDOT is willing to provide a long-term easement to DWBI for the use of the necessary roadways on Block Island as a right-of-way. DWBI is currently discussing application and permitting requirements with RIDOT. DWBI anticipates the RIDOT easement issuance will require a consultation with the Rhode Island Department of Environmental Management ("RIDEM"), and DWBI is preparing for that consultation.

The Town of New Shoreham owns the beach location where the HDD and junction box are currently contemplated to be sited. DWBI is also in discussions with the Town of New Shoreham regarding application and permitting requirements. DWBI anticipates that CRMC review will be required and is preparing the necessary documentation.

BIPCo owns the land where DWBI anticipates installing the Generation Substation. DWBI, AECOM, Careba and BIPCo are evaluating the configuration of the Generation Substation on BIPCo's property. DWBI and BIPCo have begun initial discussions regarding the acquisition of the necessary land. Town and RIDEM permits will be required for the construction of the Generation Substation and DWBI has begun researching the baseline conditions at the site.

8.2.2 OFFSHORE

Rights-of-way for the Inter-Array Cable and the Export Cable are within the jurisdiction of the CRMC. DWBI is currently in discussions with the CRMC regarding the requirements of a right-of-way easement. DWBI anticipates that such a right-of-way will be issued concurrently with the permits for the project. Construction of these facilities will also require a US Army Corps of Engineers (USACE) permit. DWBI has begun pre-application consultations with the USACE regarding these rights-of-way.

8.3 INTERCONNECTION STUDIES

The interconnection of the Block Island Wind Farm requires the study of (i) the interconnection of the Block Island Wind Farm with the Transmission Substation, via the Generation Substation (the "Generator Interconnection") and (ii) the interconnection of the Transmission Substation with both BIPCo and National Grid's Feeder 3302 via the Mainland Substation (the "Mainland Interconnection").

8.3.1 INTERCONNECTION REQUEST

DWRI submitted a Large Generator Interconnection Request to ISO-NE on August 27, 2009 for a 28.8 MW interconnection with National Grid's Feeder 3302 near the National Grid Wakefield substation. A copy of this interconnection request is attached hereto as Appendix C. DWBI has developed a preliminary design for the interconnection of the project, which is detailed in Section 8.4 below.

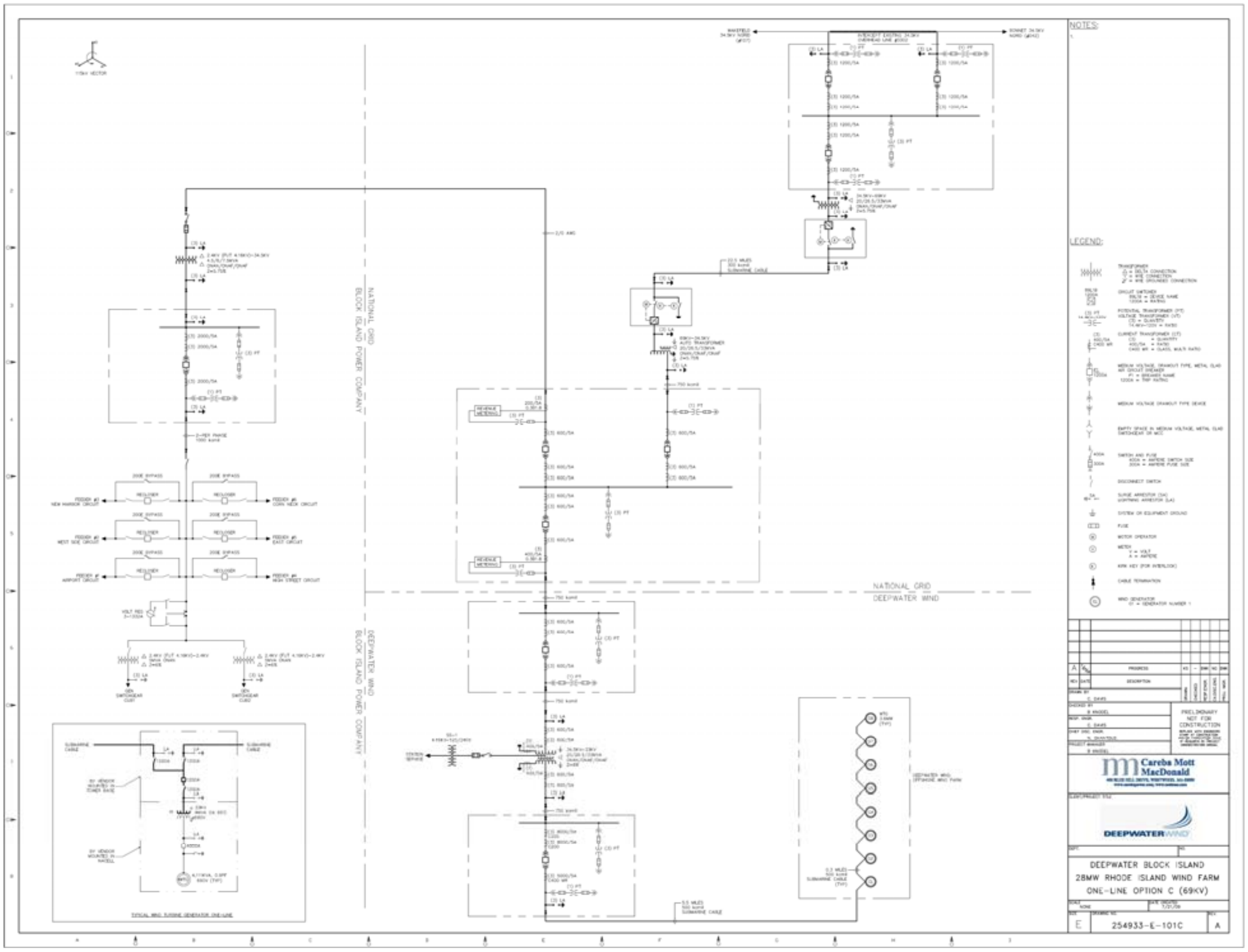
8.3.2 ISO-NE STUDIES

Having recently submitted an interconnection request, DWBI anticipates working with ISO-NE, National Grid and BIPCo to commence a feasibility study shortly. As a first step, DWBI, ISO-NE, National Grid and BIPCo will hold a kick-off meeting to establish a scope for the feasibility study. DWBI anticipates this kickoff meeting will occur within the next 45 days.

8.4 ELECTRICAL DESIGN

DWBI has completed the preliminary design of the interconnection systems and the Transmission Project, as shown in *Figure 8-3* below and in Appendix D.

Figure 8-3: Electrical One-Line



8.5 *INTERCONNECTION FACILITIES*

This *Section 8.5* describes the Inter-Array and Export Cable systems necessary for the interconnection of the Block Island Wind Farm with the Transmission Substation on Block Island. Comparable information regarding the Transmission Project is provided in the attached *Proposal for Cable System*.

8.5.1 CABLE SYSTEM DESCRIPTION

The Inter-Array and Export Cables will be 3-conductor, Cross Linked Polyethylene (XLPE) insulated, single-armored submarine power cable designed in accordance with the specifications of either the Association of Edison Illuminating Companies (AEIC) or the IEC and rated to carry power at a nominal 35 kV voltage level. An example of this type of cable is shown below in *Figure 8-4.*

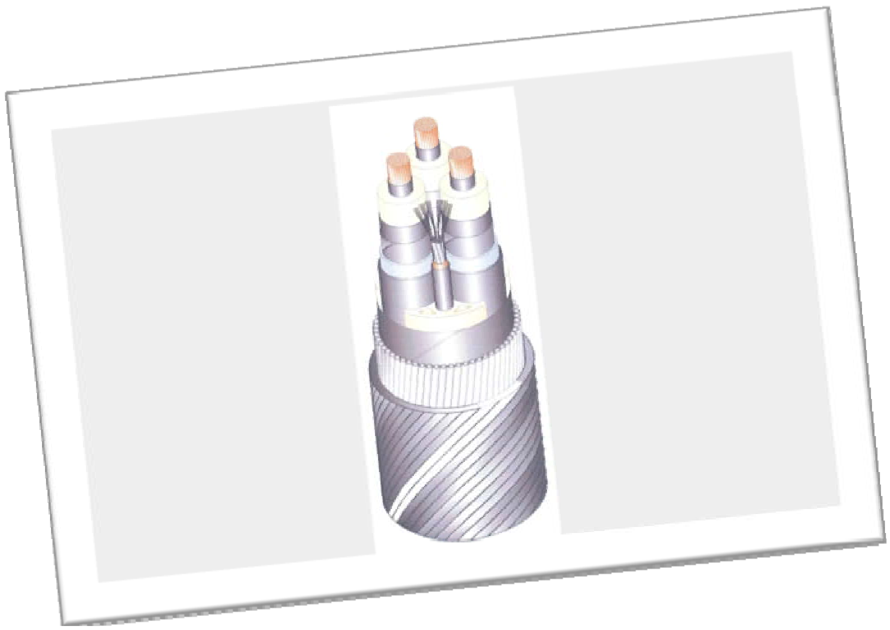
The cable consists of three copper conductors each insulated by a circumferential layer of XLPE. A longitudinal metallic sheath of lead alloy encompasses the XLPE insulation providing a hermetic seal for each individual conductor.[10]

A fiber optic cable is included in the interstitial space of the overall cable construction. These fiber pairs will be utilized to transmit data as part of the Supervisory Control and Data Acquisition (SCADA)

[10] Final design parameters may preclude the use of the lead sheath.

system. A single layer of steel armor wires arranged around the outer circumference of the cable form the strength member for the cable that provides longitudinal strength for cable handling during laying and external protection from chafing and external aggression. It should be noted that during installation this cable will be buried in the sea bed to a nominal depth of 1 meter (3.2'). It is standard industry practice to bury submarine cables to protect against external aggression. External aggression is basically any outside action that could damage the cable. These include fishing, trawling scallop or clam dredging, sand mining, piling, land-slides, earthquakes etc. DWBI is currently engaging with various cable manufacturers and installation contractors for the turnkey supply and install of the BITS cable system. A typical specification for an ABB supplied cable is included at *Appendix E.*

Figure 8-4: Armored 3-Core Submarine Power Cable



The turbines will be situated approximately 2800 feet apart in a single-string arc formation approximately 2.5 miles off the southeast coast of Block Island. *Figure 8-1* above provides an overview of the planned wind farm layout. The turbines will be connected in series using 35 kV, three-core, submarine cable. From the first turbine, the 35 kV Export Cable segment will extend for approximately 4.5 nautical miles to a transition splice vault situated on Block Island. The offshore-to-on-shore transition will be via a HDD, which will be 2,500 feet in length.

The water depth along the export cable and transmission cable routes is less than 150 feet. All submarine cable installations are scheduled for the late spring and summer season.

On Block Island, there will be an approximately 1.55-mile long 35 kV underground cable circuit connecting the Export Cable to the Transmission Substation.

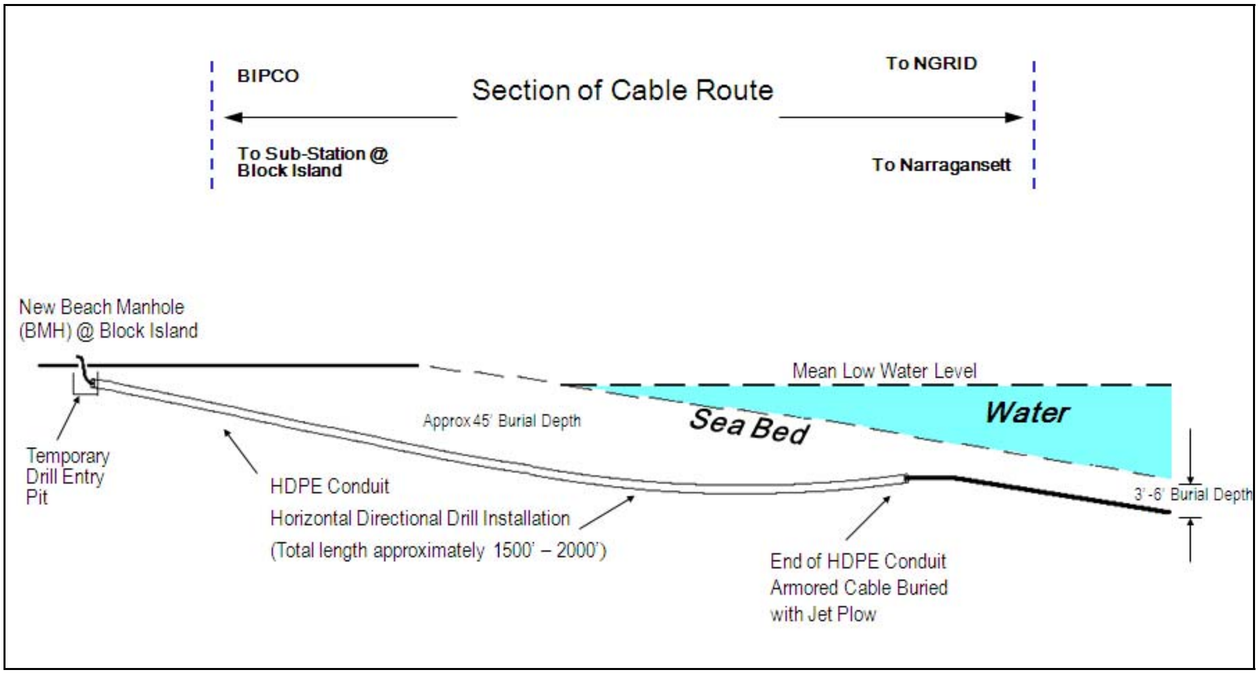
8.5.2 CABLE INSTALLATION AND COVER

The design, production and installation of submarine power cable are mature disciplines having been in existence for over a hundred years. Thousands of miles of submarine power cable have been manufactured and installed worldwide.

INSTALLATION OF EXPORT CABLE SYSTEM: BLOCK ISLAND TO WIND FARM

In order not to minimize the effects to the environmental conditions in the surf zones, all submarine cable shore landings shall be conducted via HDD techniques. HDD is a methodology whereby a cable duct or conduit is installed under an obstacle such as a river or a shore surf zone where open cut methodology would not be possible. It should be noted that HDD operations have been acceptable to the various state and federal permitting agencies having jurisdiction in previous submarine cable projects along the coast of Rhode Island. The following *Figure 8-5* shows a typical shore landing HDD configuration for the Export Cable landing at the Mainland site.

Figure 8-5: Typical HDD Profile



At a new manhole site to be constructed at the Block Island landfall HDD operations will be conducted to install a 16" diameter HDPE conduit that will extend approximately 2,000 feet into the Atlantic Ocean.

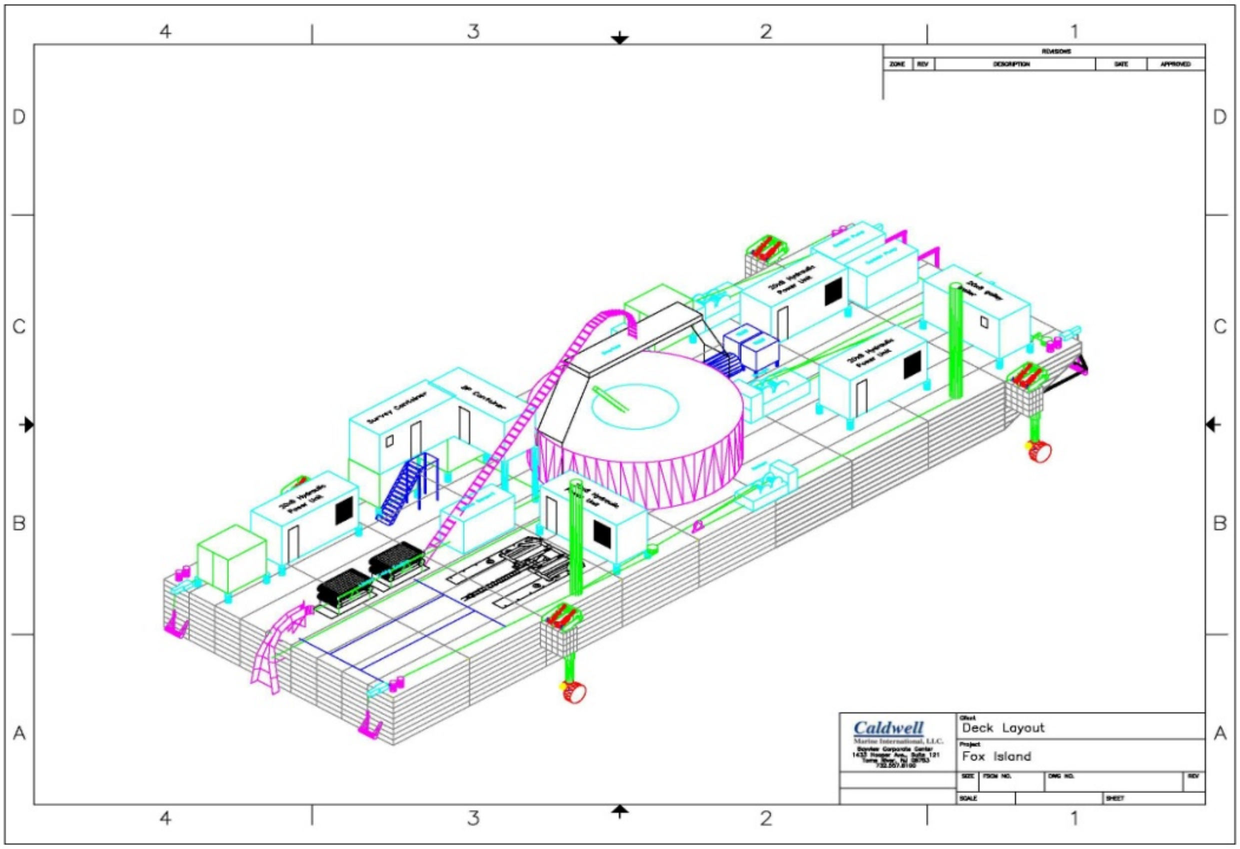
HDD operations will be conducted in the winter season in order to minimize any impact on the local communities. The local areas on Block Island are predominantly shore communities with seasonal businesses and rental properties many of which close down for the winter months. The laying of the Export Cable will be from the beach landing at the eastern side of Block Island out to the wind farm site. The Export Cable will be buried for its entire length with a target burial depth of 6 feet into the sea bed. Burial will be accomplished by use of a specially designed Jet Plow system whereby the cable is simultaneously laid and buried. This methodology for submarine cable installation has been permitted in Rhode Island in previous submarine cable projects.

INSTALLATION OF INTER-TURBINE CABLE SYSTEM OFFSHORE

Once the wind turbine foundations are installed, the Inter-Array Cable can be laid between each turbine in a string terminating at the last turbine.

The 35kV submarine cables will be shipped from the ABB factory in Karlskrona, Sweden via a commercial freighter to a mobilization yard in Quonset Point, RI. In Quonset, the Inter-Array Cable will be unloaded from the freighter onto a cable installation barge. The cable installation barge will be equipped with a portable Dynamic Positioning ("DP") system to enable the barge to work in close vicinity of each jacket. The following *Figure 8-6* shows a typical cable installation barge for this type of work. Prior to the physical loading of the submarine cable onto the installation barge a complete engineering analysis of the barge spread and cable handling parameters is undertaken and a 3-dimensional model of the barge is built on a computer before the barge is physically mobilized. This ensures that the barge will handle safely under the load of the cable and the local environmental conditions. Each segment of the Inter-Array Cable will be buried to 6 foot depth of burial.

Figure 8-6: Cable Lay Barge



8.5.3 CABLE TRANSITIONS, SPLICING AND TERMINATION

The Block Island Wind Farm will be connected to Block Island via a submarine cable operating at 33 kV. The 33kV submarine cable is a three-core, 750 kcmil cable planed to be trenched or plowed into the ocean floor. The cable will continue on-shore as a direct buried cable to an outdoor walk in 33kV metal-clad switchgear that has a 33kV breaker with directional over-current protection.

As shown in the One-line 254933-E-101C, attached as Appendix D, the 33kV switchgear will be connected to a three winding wye-delta-wye transformer to step-up the 33kV power to 34.5kV. The transformer will be connected to an outdoor walk in 34.5kV metal-clad switchgear that has a 34.5kV breaker with the differential and over-current protection for the transformer. This 34.5kV switchgear will be connected via underground duct bank to the new Transmission Substation.

8.6 TRANSMISSION FACILITIES

A complete description of the Transmission Project, a schedule for permits, easements and other approvals, a construction schedule, financing plan, environmental impact assessment, and pricing are provided in the *Proposal for Cable System* attached hereto.

SECTION 9: ENVIRONMENTAL ASSESSMENT & PERMIT ACQUISITION PLAN

The DWBI team has developed a robust environmental assessment and permit acquisition plan. By partnering with the SAMP program, DWBI will obtain a broad set of data for use in characterizing environmental issues in and around the Project site. Under the SAMP, the CRMC is working to define use zones for Rhode Island's ocean waters through a research and planning process that integrates the best available science with open public input and involvement. These use zones are intended to protect or enhance current uses, including habitat and commercial and recreational uses, while providing for future uses, such as renewable energy development.

DWBI will complement the SAMP data by undertaking a series of site-specific studies that will provide insights into the baseline environmental conditions at the site. DWBI will also, in conjunction with the participating agencies, develop a risk assessment methodology for use in determining the Project's environmental impacts.

Site control. The identification of a preferred project site requires substantial desktop studies to assess potential issues ranging from wind resource to environmental issue to the geological makeup of the seafloor. Procurement of the preferred project site, cable route, and onshore substation locations requires approvals and permits from both state and federal agencies. The CRMC is the state's lead permitting agency for the Generation Project. DWBI is engaged with the CRMC and expects to obtain all necessary permits under their prevue by the third quarter of 2011.

The USACE and the MMS issue permits for our activity in federal waters. Considering the relative novelty of an application to the USACE and the MMS for the development of an offshore wind park and its associated marine submarine cables, we are assuming a conservative timeframe for obtaining this right of way, predicting we would obtain these permits by the third quarter of 2011.

9.1 PERMITS, AUTHORIZATIONS, AND APPROVALS

Figure 9-1 below provides a list of all the permits, licenses, and environmental assessments (EAs)/environmental impact statements (EISs) required for the construction and operations of Generation Project. *Figure 9-1* also identifies the governmental agencies having authority for each permit or authorization.

Figure 9-1: Required Permits, Licenses, and EAs/EISs

Permit or Approval	Regulatory Authority
Federal	
Environmental Assessment – NEPA Review	Federal Lead Agency United States Army Corps of Engineers (USACE)
Section 10 (Rivers and Harbors Act)	USACE
Section 404 (Clean Water Act)	USACE
Right-of-Way Grant (EPAct 2005)	Minerals Management Service (MMS)

Essential Fish Habitat Consultation and T&E (Section 7 of the ESA, Magnuson-Stevens Act and Marine Mammals protection Act) Consultation	National Marine Fisheries Service (NMFS)
T&E (Section 7 of the ESA) Consultation	United States Fish and Wildlife Service (USFWS)/ NMFS
Cultural Resources (Section 106 NHPA)	Tribes/Rhode Island Natural History Survey
Determination of no hazard to vessel traffic and Approval for private aid to navigation	United States Coast Guard (USCG)
Conformity Determination/Air Emissions Permit	United States Environmental Protection Agency (USEPA)
Notice of Proposed Construction or Alteration	Federal Aviation Administration (FAA)
Rhode Island – State	
State Assent	Rhode Island Coastal Resources Management Council (CRMC)
Marine Dredging Permit*	CRMC
Coastal Consistency Determination	CRMC
Lease/License of Offshore Land	CRMC
Coastal and Freshwater Wetlands Permit	CRMC
Determination of Consistency with WQM Plan	CRMC
Utility Construction Permit	Rhode Island Department of Transportation (RIDOT)
Section 106 Consultation	Rhode Island Natural History Survey ("SHPO")
Rhode Island - Local	
Storm water Pollution Prevention Plan Approval	County and/or municipal departments and agencies in New Shoreham, Wakefield, Narragansett Beach, and Washington County
Temporary Dewatering Permit	
County Engineering Approval	
Tree Removal Approval	
Temporary Fencing Approval	
Local Site Plan Approval	
Zoning Certificates or Variances	
Engineering Release	
Construction Permits	

* Water Quality Certification required for these activities pursuant to Section 401 of the CWA; Rhode Island Water Quality Rules may be incorporated into an approval issued as part of this application.

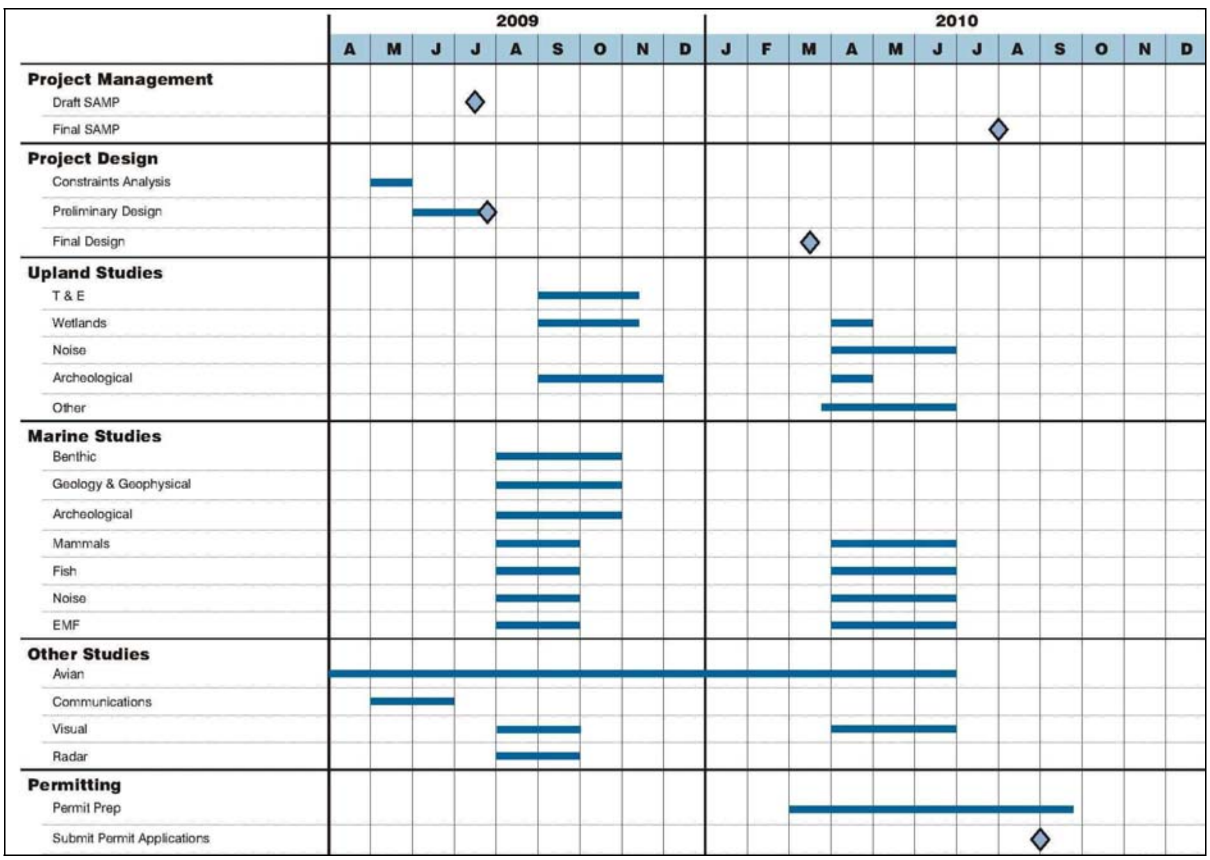
The U.S. Army Corps of Engineering will serve as the lead federal permitting agency under NEPA. The CRMC will serve as the lead state permitting authority. DWBI is engaged in a pre-application consultation process with both USACE and the CRMC. Through this process, DWBI has begun consultations with USFWS and NMFS, and is currently preparing for consultations with EPA and SHPO. Additionally, DWBI, USACE and CRMC have recently begun discussions with MMS regarding the required Right-of-Way grant.

9.2 PERMITTING TIMELINE

Permitting is the critical path for the Project and will ultimately determine when the Project can be built. The Project permitting schedule is awaiting the completion of the Ocean SAMP, which is scheduled to be completed in August 2010. Project permits are scheduled to be submitted in September 2010 after the SAMP has been completed and adopted.

DWBI's anticipated timeline for undertaking baseline environmental studies, conducting the necessary risk assessments, and seeking and receiving all the required permits and approvals is outlined in *Figure 9-2* below.

Figure 9-2: Anticipated Permitting Timeline



DWBI is coordinating with the Ocean SAMP and has had pre-application conferences with the major state and federal permitting agencies (CRMC and USACE, respectively), and begun consultations with NMFS and USFWS to define the scope of site-specific desktop and field studies that will be required to assess the baseline conditions and potential impacts resulting from the construction of the Project and obtain the necessary permits and approvals to begin construction. As shown on the attached schedule, visual, avian, radar, and marine studies are currently underway. Upland studies for threatened and endangered species, wetlands, and cultural resources are scheduled to begin this fall. All environmental studies are scheduled to be completed by June 2010.

The site-specific studies conducted by DWBI will be combined with results from the studies being conducted for development of the SAMP. CRMC is leading the SAMP effort with the support of the University of Rhode Island ("URI"). Federal agencies such as MMS and the USACE, which have authority in federal waters, will participate, as will state agencies including the RIDEM. As part of the SAMP process, the CRMC is working to define offshore energy zones by collecting information related to sensitive resources and habitats, as well as potential marine and safety hazards. The SAMP preparation process is expected to be completed by August 2010.

The actual preparation of Project permit applications will begin in early 2010 with expected submission of the applications by September 2010. The issuance of the necessary permits is expected to be relatively quick as a result of close coordination with the regulatory agencies throughout the permitting process.

DWBI is also working with National Grid's transmission planning group and the towns of Narragansett and New Shoreham to develop preliminary upland transmission routes and to identify substation locations. As construction and engineering designs for the onshore portions of the project are finalized, the requirements for local permits and approvals will become clear.

At this stage, DWBI expects that it will be required to secure approvals under the applicable Municipal Land Use Laws, and other municipal and county ordinances, as well as easements from RIDEM and interactions with RIDEM. The locations of the various alternative project configurations proposed could require approvals from New Shoreham, Wakefield, Narragansett Beach, and Washington County, Rhode Island. Local permits and approvals to be required for the final project configuration will be identified after the preferred Project configuration is verified.

9.3 PRELIMINARY ENVIRONMENTAL ASSESSMENT

DWBI is currently in the process of undertaking the site-specific studies mentioned previously, which will make up the basis of the Project's ultimate NEPA analysis. Similarly, the SAMP teams are still in the process of collecting their data sets. Therefore, no detailed environmental analysis can be undertaken at this time. As such, this section will first provide an overview of DWBI's anticipated data collection methodologies and then will discuss the preliminary environmental assessment, based on desktop studies prepared by DWBI's consultants.

9.3.1 DATA COLLECTION

DWBI will use the results of the SAMP studies, as well as the desktop and field data collected by its proprietary studies, for in the Project's required NEPA analyses. Some of the information collected by the Ocean SAMP team will also be used to run specific models based on the Project.

DWBI has developed a work plan to conduct site-specific marine surveys based on meetings and other interactions with NMFS and CRMC that is intended to complement the SAMP and other current knowledge of existing marine resources in the Project area by providing the level of site-specific data and analyses necessary to satisfy all state and federal environmental requirements. Specifically, DWBI's objectives for the work plan include:

1) Determining the presence of Essential Fish Habitat ("EFH") in the Project area and performing an assessment of EFH that may be affected by the Project;
2) Evaluating the presence and abundance of eelgrass in the shoreline areas where cable installation will occur to determine if eelgrass beds will be affected by the Project;
3) Characterizing the benthic communities in the Project area to determine what impacts project construction, operation, and decommissioning may have on this resource; and
4) Performing additional impact evaluations including scour analysis, construction noise assessment, and EMF modeling of the cable to determine if these project-related activities will result in marine resource impacts.

DWBI also submitted a work plan to USFWS proposing avian and bat studies and initiated data collection activities. The objectives of the avian and bat work plan are to:

1) Determine the general species composition of the avian and bat communities during both the summer/winter residency and spring/fall migration periods;
2) Estimate the overall relative abundance of the avian and bat communities within the Project area as well as the relative abundance of recognized species groups;
3) Identify both the spatial and temporal distribution patterns of the avian and bat communities with the Project area; and
4) Identify and evaluate the spatial and temporal use of the Project area by both state and federal rare, threatened, and endangered (RTE) bird and bat species.

Work plans are currently being prepared to assess cultural and visual resources, marine and freshwater wetlands, marine mammals, air quality, and recreational and commercial fishing impacts. These studies are expected to be initiated in the fall of 2009. All surveys results will be included as part of the NEPA documentation for the Project along with proposed mitigation measures for any expected environment impacts. A preliminary assessment of environmental impacts based on existing information is provided below.

9.3.2 SITE DEVELOPMENT

Based on the preliminary desktop studies regarding impacts on environmental resources, DWBI has been advised that the Project will not have significant impacts. The project has been designed to avoid, minimize, or mitigate impacts on eel grass, coastal and freshwater wetlands, and seal haul-out areas. If impacts on any coastal habitats are identified mitigation measures will be developed. The following sections describe the impacts anticipated as a result of the construction and operations of the Project.

COASTAL HABITATS

No significant impacts on coastal habitats are expected during construction or operation of the Project. The project has been designed to avoid, minimize, or mitigate impacts on eel grass, coastal and freshwater wetlands and seal haul-out areas. If impacts on any coastal habitats are identified mitigation measures will be developed. See Section 8 for further detail on the interconnection process.

SEAFLOOR HABITATS

No significant impacts on seafloor features are expected. Project facilities have been sited outside of sensitive seafloor habitats (e.g., hard-bottom areas). Any disturbance to the seafloor of this area is expected to recover quickly to original contours after construction. The 5 to 8 wind tower bases may connect into bedrock, below the seafloor surface layer, but no impacts will occur on the surrounding geology. Along the transmission corridor, the cable is expected to be buried in depths ranging from 3 to 6 feet. Any disturbance to the soils or geology of the land-based section will be returned to original grade.

Seafloor habitats along the transmission corridor are also expected to recover quickly, once the line is buried to original grade.

Positive impacts on the seafloor surrounding the tower bases may occur as the addition of hard structures and scour protection will likely increase the habitat diversity in those areas.

TRANSPORTATION INFRASTRUCTURE

No significant impacts to vessel or land-based traffic in the Project area are expected. Minimal impacts may occur from staging and construction. One or two vessels may be employed in the installation of turbines and in laying submarine cable and electrical connections. Based on the relatively small size of the project and the phased construction, no significant increases in vessel traffic are expected. Tower foundations will first be constructed followed by erection of the wind turbines. This phased approach will shorten the duration of vessel traffic in the area. Land-based traffic impacts will be limited to the period when the HDD is connected to the landfall and the connection to the substation. Based on the short distance involved, no significant impacts are expected.

Minor increases in vehicle traffic may occur during maintenance activities, but any adverse impacts are expected to be negligible.

A Traffic and Transportation Plan will be developed to (1) minimize vessel traffic impacts from construction and work barge; (2) avoid project-related traffic during land-based transmission line construction.

The Coast Guard has issued a navigation and vessel inspection circular which provides guidance on information and factors the Coast Guard will consider when reviewing applications for permits to build and operate an Offshore Renewable Energy Installation in the navigable waters of the U.S. DWBI will refer to this circular to better understand this review process and how to provide information to assist the Coast Guard and expedite this process. A Federal Aviation Administration approved lighting plan will be implemented on the turbines to ensure safety to air traffic flying over the Project area.

AIR QUALITY

Minor impacts on air quality are expected during construction due to increased boat traffic. It is anticipated that the increase in energy generation that is absent of emissions will reduce the total emissions of greenhouse gasses that contribute to global warming in the region.

Construction activities will primarily result in localized increases in air emissions associated with construction vessels working in the Project area. The use of low-sulfur diesel vessels will minimize impacts to air quality. A General Conformity analysis will be completed as part of the permitting process to determine whether mitigation, including the purchase of offsets, will be required.

WATER RESOURCES / WATER QUALITY

No significant long-term impacts on the ocean surface, currents, or sediment resources are expected to occur. The Project will result in short-term impacts on water quality due to temporary disturbance to sediments within portions of the Project. Mitigation measures such as reducing the speed of the cable laying vessel can be implemented to minimize disruption during these activities. Based on the relatively short construction season, and the relatively small size of the Project, this potential is expected to be negligible.

The presence of the 5 to 8 turbine bases within the Project area are expected to have negligible impacts on ocean currents. Long-term impacts on the ocean surface or currents are not expected from construction of the Project.

The nearshore portion of the cable line will tie into the on-shore portion via a HDD in order to minimize impacts to sensitive near shore resources.

Negligible impacts on sediment are expected, based on the relatively small footprint of work activities and the short duration of disturbance. Based on the strong currents along the majority of the transmission line route, similar sediments and contours to baseline conditions are expected after burial of the cable line. Therefore, no significant impacts are expected.

BIOLOGICAL RESOURCES (AQUATIC AND TERRESTRIAL)

Bird and Bat Species

There is a potential for adverse impacts on avian and bat species during the construction of the project. Although there may be some mortality due to collisions with turbines, it is expected that most species will avoid the turbines and any impacts will be indirect, such as changes in flight patterns. DWBI and the Ocean SAMP Team are conducting extensive studies are being conducted to characterize avian and bat activity in the project vicinity.

Construction impacts are expected to be limited to temporary disturbance to foraging in the immediate vicinity of the Project. Foraging flight paths may be altered, which may result in additional energetic stress on shorebirds. Results of the bird and bat studies will provide additional insight regarding Project-related impacts.

Marine Mammals

The Project has the potential to result in minor short-term impacts on marine mammals primarily during construction including displacement and/or harassment of marine mammals in the Project area. Primary disturbance will result from underwater noise and vibration generated from the Project. The increased noise will be associated with the ship traffic, pile driving activities for the construction of the wind. Significant impacts could occur if marine mammals are permanently displaced from the Project area. However, permanent displacement is not expected based on the relatively small size of the proposed project, the relatively short duration of construction-related disturbances, and the timing of the construction window. Mitigation measures include the use of environmental monitors during construction will be implemented to minimize these impacts.

No significant adverse impacts are expected to marine mammals during operation of the Project. Low frequency sounds of the gearbox and generator transmitted from the tower to the water column maybe present. Turbine design features that could mitigate this condition are being evaluated.

Based on the short-term duration of construction activities and the incorporation of these noise-related mitigation measures, potential impacts on marine mammals are expected to be minimal.

Sea Turtles

Similar to marine mammals, there is potential for adverse impacts on sea turtles associated with Project, particularly during construction activities.

The main concern is increased noise levels during construction. Additional impacts include physical harassment (e.g., disturbance) as a result of construction vessel operation in the Project area. Permanent displacement is not expected based on the relatively small size of the proposed project and the relatively short duration of construction-related disturbances.

Fish and Essential Fish Habitat

No significant impacts on fish resources or EFH are expected to result from the Generation Project however it may be necessary to restrict in water construction activities during certain seasons. Based on the short duration of construction activities and the expected recovery of the seafloor to pre-construction contours, potential adverse impacts are expected to be short-term in nature.

Positive impacts, although minor, are expected through the introduction of additional physical structures (e.g., turbine bases) within the open ocean environment which will continue throughout project operation and can serve as potential useful habitat for some fish species.

LAND USE

No significant impacts to local land use are expected. Impacts from construction will be minimal and temporary. Port facilities will not need to be expanded to accommodate the transportation of facility components. Potential disruption to commercial or recreational activities in vicinity of the Project area during project construction exists. Onshore construction to tie electrical production to the grid will have a negligible impact on the area. All new transmission lines will be installed underground. New electrical substations will be required on Block Island and the mainland. Efforts will be made to locate these stations away from residential and recreational areas.

The turbines may pose a potential obstacle to marine navigation; however, the proposed Project Area has been selected so as not to interfere with designated fairways, shipping lanes, or commercial fishing areas.

CULTURAL RESOURCES

Potential impacts on cultural resources include the disturbance of a significant site or sites and visual impacts to historically significant properties. Marine and upland resource surveys will be completed as part of the project design process. Direct impacts to archaeological resources will be avoided through siting. Some indirect visual impacts could result on historic structures onshore within the vicinity of the Project area.

NOISE LEVEL

The potential for noise-related adverse impacts on various resources including fish, marine mammals and sea turtles resulting from the Project is discussed above. Potential adverse impacts associated with changes to baseline noise conditions will be quantified in the EA. Resultant changes through construction and operation of the proposed wind park on the acoustical environment will be determined and appropriate avoidance and minimization measures will be developed to ascertain potential impacts.

AESTHETIC/VISUAL

Potential adverse impacts associated with the construction and operation of the proposed Project will be determined during the Visual Impact Assessment ("VIA"). The VIA will evaluate project visibility and consistency/contrast with existing landscape components and sensitive resources such as historically significant structures. Appropriate avoidance and minimization will be developed, as necessary, to mitigate for those potential affects.

TRANSMISSION INFRASTRUCTURE

The Project will make landfall at Town Beach on Block Island and then follow Corn Neck Road south to Ocean Avenue terminating at the BIPCo substation (see attached map entitled Block Island Overview). The roads are owned by RIDOT. The upland cable route will follow the existing RIDOT ROWs. All cables will be installed aboveground on the BIPCo property, including the cable from offshore and all substation connecting cables.

A second landfall will occur at Narragansett Town Beach and follow Route 1 to the location of a new substation where the cable route ties into the existing bike path (see attached map entitled Narragansett Beach Detail). RIDOT owns Route 1 and the cable route will follow the existing ROW.

FUEL SUPPLY ACCESS

As a renewable energy project, the Project does not require a fossil fuel source. Therefore, access to fuel supplies is not applicable.

9.4 PUBLIC SUPPORT

Public support for the Project has been strong. Appendix F is a compilation of letters of support from various public officials in the region, demonstrating the level of enthusiasm and encouragement for the Project. Letters are included from Rhode Island Governor, Donald Carcieri; New Shoreham First Warden, Kim Gaffett; Director of RIDOT, Michael Lewis; and Interim Director of the EDC, Mike Saul.

Further evidence of support is demonstrated in Appendix G, a compilation of news stories regarding the Project. A recent story included in this compilation reports of a recent survey conducted by the Town of New Shoreham, indicating a high level of public support for the Project from the local residents.

SECTION 10: ENGINEERING AND TECHNOLOGY; COMMERCIAL ACCESS TO EQUIPMENT; CONTRIBUTION TO EMPLOYMENT

The BIWF project is an eight turbine wind farm with the wind turbine generator array located approximately 2.5 miles southeast of Block Island in Rhode Island state waters. The wind turbines are to be placed upon steel jacket foundations piled into the seabed at pre-determined locations. Each turbine is connected in series via the Inter-Array Cable described in *Section 8*. The first wind turbine (i.e., nearest to the landfall at Block Island) will be connected to the Generator Substation on Block Island via the submarine Export Cable. The proposed physical layout of the turbine array and the inter-turbine and export cable configurations are shown in *Figure 8-1* of this document.

10.1 PRELIMINARY ENGINEERING PLAN

DWBI has prepared a preliminary design for the Block Island Wind Farm ("BIWF") in accordance with good industry and engineering practices. DWBI has also begun engineering and commercial discussions with turbine vendors and other equipment suppliers. Many aspects of this design and engineering program are well underway and, in some cases, are complete.

10.1.1 PROJECT TECHNOLOGY

The development, design, and engineering of an offshore wind farm is a multi-faceted operation involving the following technology and engineering packages:

- **Wind Turbine Generator** design and selection, including wind resource analysis
- **Foundation** design, including geophysical and geotechnical site surveys
- **Cable Systems** design, including electrical engineering & interconnection, substation design and marine route surveys for submarine cable

These technology and engineering packages are closely related, in that the design of each equipment subsystem significantly informs the design of other equipment subsystems. Therefore, in our Project Management role, DWBI, with expert advice from our Owners Engineering team, has been thoroughly evaluating the critical interfaces between different engineering packages.

The majority of the project engineering packages involved a desk top study phase during which readily available engineering data were gathered and analyzed to form a preliminary equipment subsystem design. This was then often followed by a field study to gather empirical data that are currently being analyzed and applied to the preliminary design to form a final and optimum design.

10.1.2 PROJECT EQUIPMENT DESIGN & SELECTION

As part of preliminary equipment selection, desk top study data and empirical field data from various manufacturers have been collected and analyzed by the DWBI team.

10.1.2.1 WIND TURBINE GENERATORS

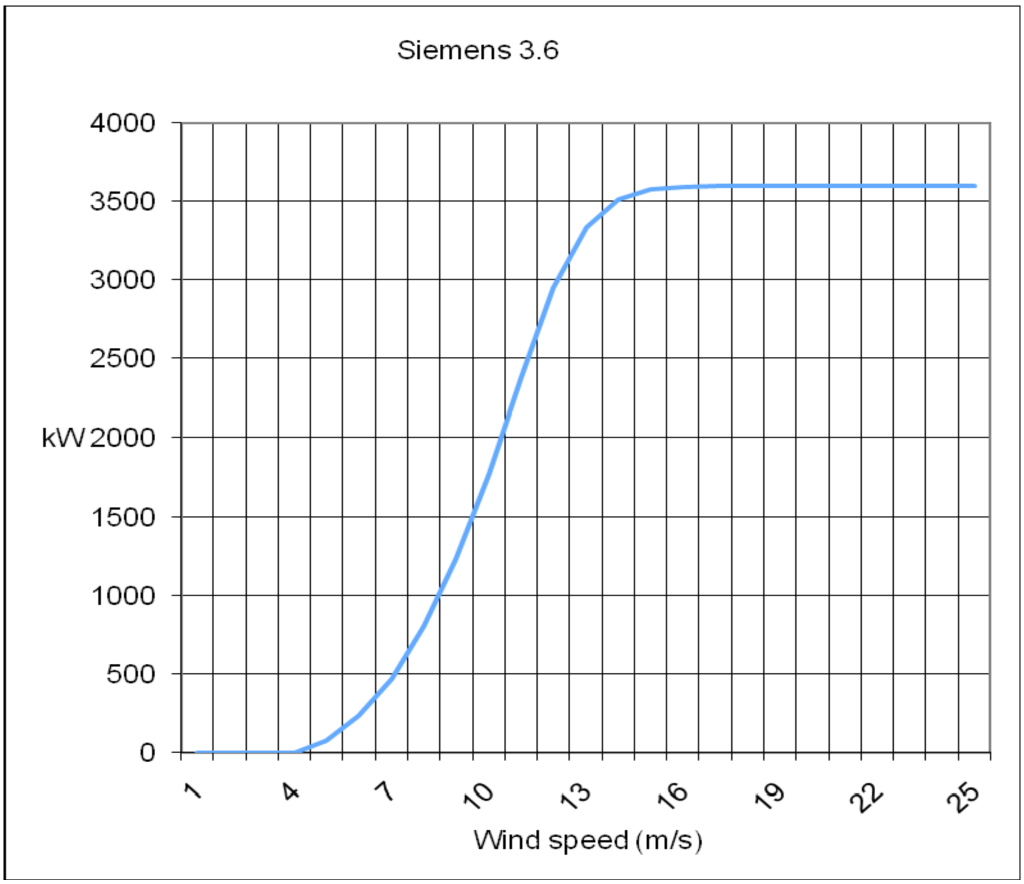
The offshore wind market developed in Europe over the last 20 years; accordingly, the main supply chain for offshore turbines is based in Europe. There are numerous turbine suppliers, the largest of which are Siemens, Vestas, MultiBrid, and RE-Power. The US based manufacturer, Clipper Wind, is working on developing an offshore turbine. Siemens builds and sells a 3.6 MW turbine; Vestas a 3.0 MW turbine; Multibrid and Re-power are concentrating on 5 MW turbines; and Clipper is developing a 7 MW machine.

Turbine Selection

DWBI is currently in discussions with a number of turbine suppliers. While no turbine has been selected, the Siemens 3.6 MW design has been used as the design basis for the Generation Project. DWBI is also in discussions with Vestas regarding their 3 MW class turbine, which has similar characteristics to the Siemens machine. The characteristics of the Siemens 3.6 MW turbine used for the design basis are as follows:

- Hub height: 262 ft (80 m) above MLW
- Rotor Diameter: 351 feet (107 m)
- Blade length: 170 feet (52 m)
- Power Curve: See *Figure 10.1*

Figure 10-1: Power curve for a Siemens 3.6 MW wind turbine



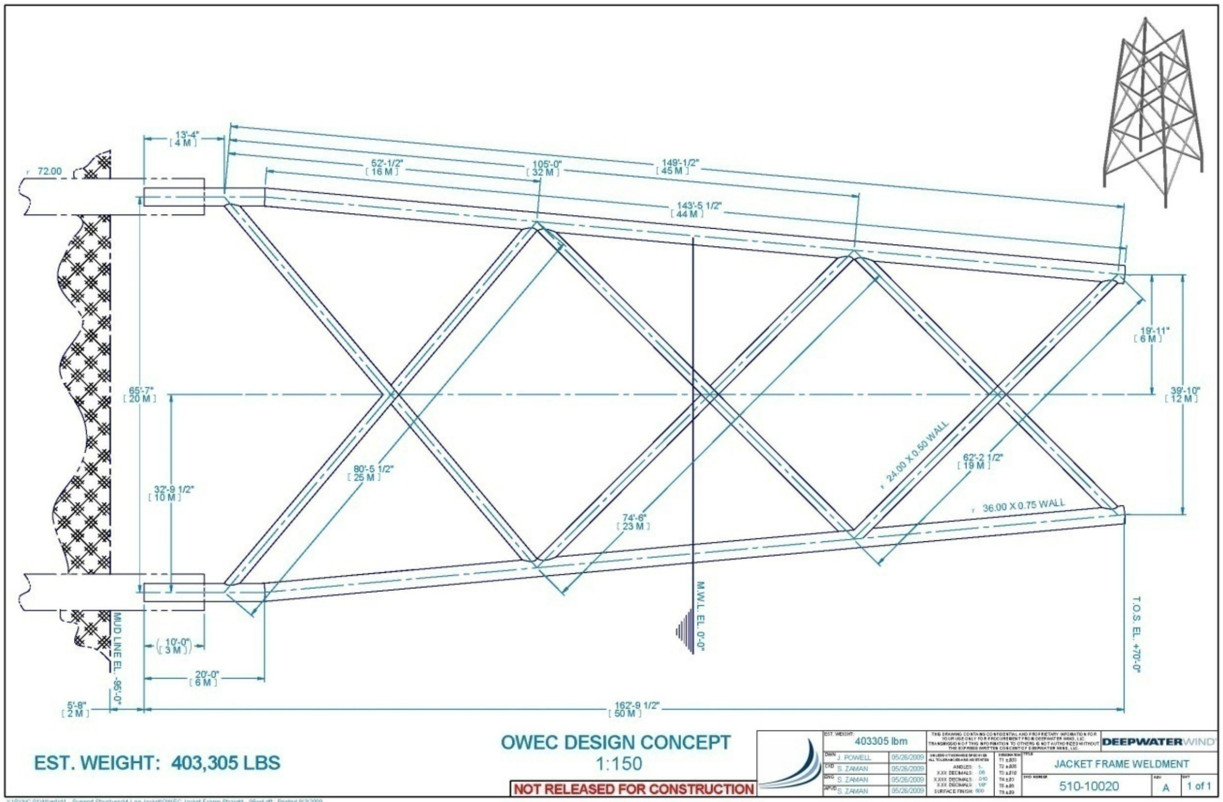
Wind Resource

A thorough desk top study including Meso-Map modeling from multiple sources has been completed. Empirical wind resource data gathering is currently underway at Block Island. This program is fully described in Section 6, Energy Resource Plan.

10.1.2.2 FOUNDATIONS

Team member OWEC Tower of Norway is responsible for the foundation jacket design. OWEC has a proprietary standard design but will use the empirical data gathered in the aforementioned geo-technical site survey to complete their final detailed design. The jacket design is shown below in *Figure 10-2*.

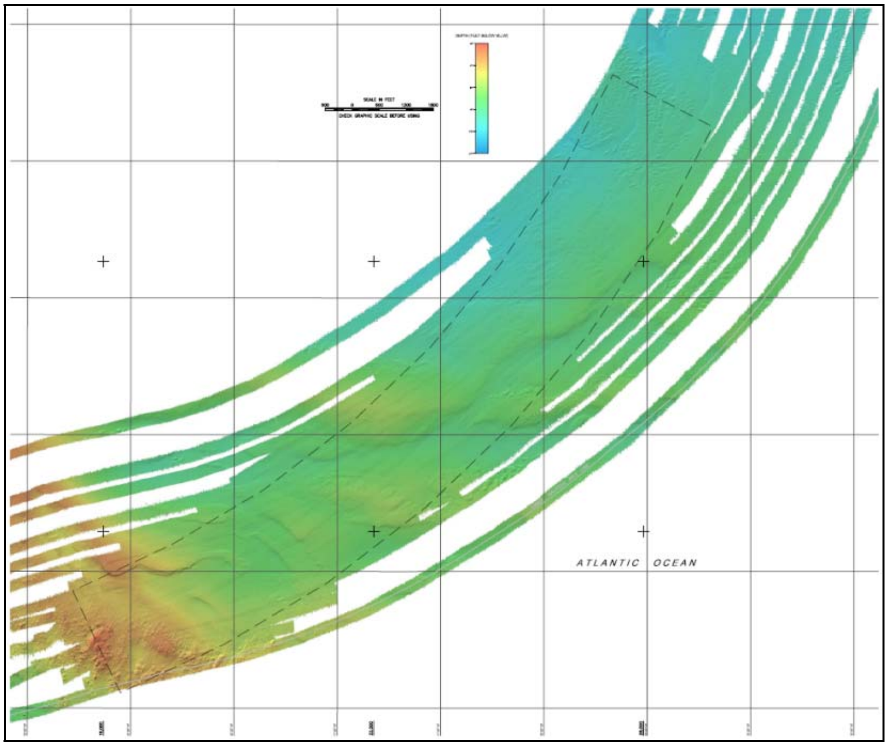
Figure 10-2: Foundation Design



Foundation Geophysical Site Survey

Prior to designing a functional foundation for the offshore wind turbine generators, the sub-strata of the sea bed at the site must be investigated. DWBI has collected desk top study data from various public domain sources such as the United States Geological Survey data base and previous team member experience with construction in the site area. These data have allowed DWBI to formulate preliminary design criteria for its jacket foundation. DWBI has also completed a full geophysical field survey of the proposed turbine area. *Figure 10-3*, below, shows an excerpt from the empirical geophysical data gathered at the site.

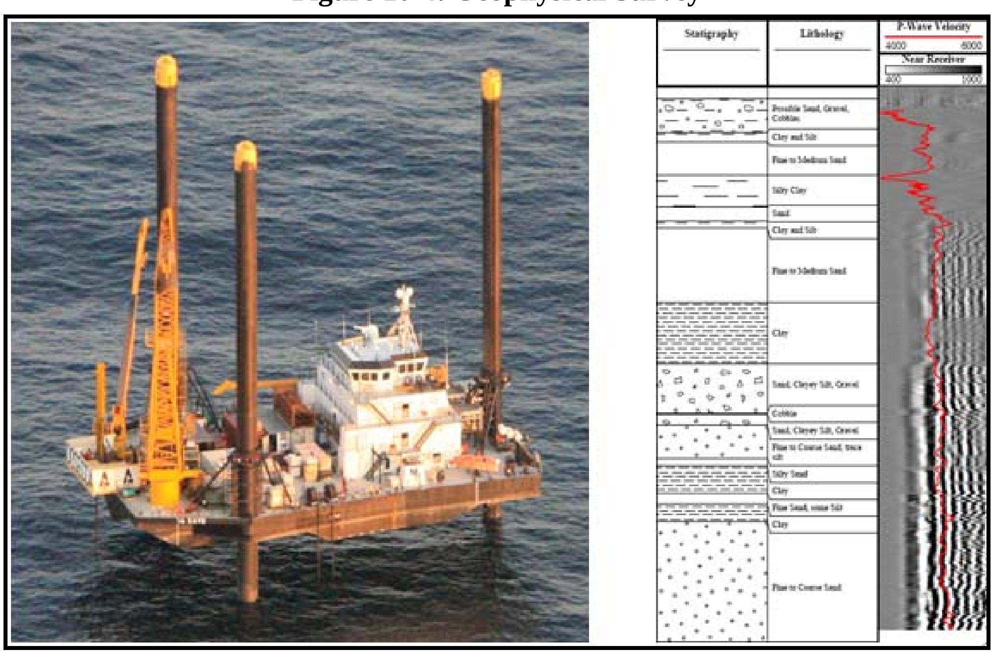
Figure 10-3: Geophysical Survey



Foundation Geotechnical Site Surveys

Utilizing the empirical geophysical data, DWBI selected the optimum geographic position for each turbine foundation. DWBI then mobilized a drill ship to the site and conducted geo-technical test bores at each previously selected turbine site to 225’ below the sea bed. The test bores were completed on August 16, 2009 and the data is now being analyzed to complete the foundation pile design. Below, in *Figure 10-4,* are the drill ship located at site and a sample test bore log result.

Figure 10-4: Geophysical Survey



10.1.2.3 CABLE SYSTEMS

DWBI has completed preliminary submarine cable design and plans to commence final submarine cable design after all route survey data is processed and analyzed. Final submarine cable design will require the following two engineering packages:

Electrical Engineering

Electrical engineering design factors are well advanced, including such items as ISO-NE interconnection requirements, existing on-shore sub-station capability and upgrade requirements and cable design. Our team members Careba Mott MacDonald and Siemens PTI are fully engaged in this effort. This subject is covered in *Section 8*.

Marine Route Survey for Submarine Cable

The Marine Route Survey for the inter-turbine cables has been completed. The Marine Route Survey for the BITS cable is planned for October 2009.

10.1.3 MAJOR EQUIPMENT

Figure 10-5, below, provides a summary overview of major generation and equipment parameters:

Figure 10-5: Major Equipment

PARAMETER	***DESCRIPTION***
Type of Generation	Offshore Wind Turbine
Type of Turbine	Either Siemens 3.6 MW or Vestas 3.0 MW
Turbine Hub Height	262 feet (80 meters) above mean sea level
Rotor Diameter	351 feet (107 meters)
Blade Length	172 feet (52 meters)
Power Curve for Siemens 3.6 MW	See *Figure 6-8*
Foundation Technology	Steel Frame Jacket foundation
Foundation Fabricator	Gulf Island Marine Fabrication
Submarine Cable Manufacturer	Currently in discussion with ABB but other qualified manufacturers are potential suppliers.
Sub-Station Equipment	Siemens
Status of Equipment Acquisition	Turbines: Deposit due January 2010 Submarine Cable: Deposit Due April 2010 Foundation Fabrication: Deposit due October 2010
Contract for Turbines	MOU with Siemens to be executed mid-September 2009; deposit for manufacturing queue position Jan 2010
Contract for Cable	MOU with cable manufacturer to be executed November 2009
Contract for Foundations	MOU with Gulf Island Marine expected by January 2010
Equipment Operations History: Turbines	Siemens is one of the world's leaders in manufacturing and maintaining offshore wind turbines with over 1,000 offshore turbines either in the water, being installed, or on order.
Equipment Operations History: Cable	Our preferred vendor ABB has manufactured and installed thousands of miles of submarine cable world-wide and has an excellent track record.
Equipment Operations History: Foundations	The steel jacket foundation has been in use for over 50 years in the offshore oil and gas market. It is proven technology and Gulf Island Marine is one of the county's leading fabricators

10.1.4 EQUIPMENT PROCUREMENT STRATEGY AND ACQUISITION STATUS

Since early 2009, DWBI has been in discussions with multiple suppliers for each of the major equipment systems. DWBI plans to execute contracts for equipment supply and installation either concurrently with the execution of a PPA or soon thereafter. Integration design discussions have commenced with the turbine manufacturer(s).

The current status of DWBI's equipment acquisition is as follows:

- MOU with turbine vendor to be executed mid-September 2009; deposit for manufacturing queue position Jan 2010; final payment for manufacturing Jun 2010
- MOU with foundation fabricators expected to be signed Jan 2010; deposit Payment for jacket fabrication October 2010; payment for fabrication of jackets Feb 2011
- MOU with cable system supplier to be executed mid-November 2009, deposit on equipment purchase April 2010, and payment for fabrication Jun 2010

10.1.5 HISTORY OF EQUIPMENT OPERATIONS

All of the technology proposed for the BIWF is commercially proven and readily available.

Turbines

Siemens, whose turbines are the design basis for the BIWF, is one of the world's leaders in manufacturing and maintaining offshore wind turbines with over 1,000 turbines in the spinning in the water, being installed, or on order. Their turbines can be found in the waters off the coast of Denmark, Sweden, and the United Kingdom, with availability rates over 95 percent.

Foundations

Jacket foundation technology has been used for over 40 years in the Gulf of Mexico in the oil and gas industry. All of the wind generation equipment being used is proven technology and has been used in the offshore wind farms in Europe for almost 20 years. The jacket foundation is being used now at the Beatrice offshore wind farm off the coast of Scotland, at the Alpha Ventus project off the coast of Germany and at a number of other offshore wind developments. Having been successfully demonstrated at these initial projects, additional jackets are planned for installation at the Beatrice project site this year, and more jackets are to be installed at other offshore wind sites next year.

Cable Systems

ABB is one of the world's most experienced submarine cable manufacturers. ABB has designed and delivered numerous submarine cable projects worldwide, many of which are record-breakers in terms of size or have set new benchmarks in terms of performance. They include the world's longest underwater cable – the 580-km NorNed interconnection between Norway and the Netherlands.

Other groundbreaking ABB submarine cable installations include the world's largest and most remote offshore wind park connection (the 400 MW NordE.ON 1 in the North Sea), the world's first power-from-shore solution for an offshore oil and gas platform (the 84 MW Troll A project in the North Sea), and the world's largest converter transformers (with a power rating of 621 MVA and weighing a massive 554 metric tons for the Pacific Intertie in the United States).

Substation Equipment

The Siemens power, transmission, and distribution portfolio has been carefully structured to optimize wind park performance. Siemens has been working both on-land and offshore and is an expert in the transmission field.

10.2 COMMERCIAL APPLICATIONS OF PROJECT TECHNOLOGY

Siemens, whose turbines are the design basis for the BIWF, has over 637 MW of offshore wind farms in operation through seven projects since 1991. Siemens also has 1,500 MW of new offshore wind farm projects slated by 2012 either under contract or with firm orders in place.

10.3 MATURITY OF PROJECT TECHNOLOGY

As described in *Section 10.1.5,* above, all of the technology employed in the project is currently commercially available.

10.4 JOBS CREATION

DWBI is currently investigating job creation opportunities for the Block Island Wind Farm. The small-scale nature of the project, with only eight turbines, does not support mass investments in infrastructure improvements and fabrication facilities. Accordingly, a large portion of the equipment associated with the Block Island Wind Farm will be purchased from overseas suppliers, as there are no U.S.-based manufacturers of offshore wind energy equipment. Our on-going development efforts on the Block Island project, however, continue to inform us about the very significant number of jobs that will be created for the utility-scale Rhode Island Wind Farm project that we anticipate developing.

11. OPERATION AND MAINTENANCE

11.1 OPERATION AND MAINTENANCE OVERVIEW

Operation and maintenance programs for offshore wind turbine generators are specifically designed to take into account the effects of the harsh marine environment on the turbines; these programs also factor in the fact that there are limited opportunities to access the turbine platforms due to safety considerations related to rough seas and high winds. Accordingly, DWBI plans to purchase a five-year warranty on the turbines, under which operations and maintenance services for the project will be provided by the turbine supplier; DWBI will train our employees alongside the manufacturer's staff so that we can be in position to take over all operations and maintenance activities by the end of the warrantee period.

As owner and operator of the wind farm, DWBI will be directly responsible for all aspects of project performance, including environmental compliance during maintenance operations. DWBI will conduct our business from land-based operations in Rhode Island. The base will include the turbine operations control center, the maintenance/warehouse facility, the administrative support offices, and a marine terminal for DWBI's offshore support and logistics vessels.

11.1.1 OPERATIONS

Operating the Generation Project will be the responsibility of DWBI and we will engage a qualified O&M Manager to monitor and run the wind farm. As part of the management plan, the O&M Manager will have a Performance Engineer prepare a daily dispatch plan to maximize power production based on a wind resource forecast and equipment availability. To execute the dispatch plan, the turbine operator, utilizing standard procedures, will control and monitor the generators' performance via a data system embedded in the wind farm cables. The Turbine Operator will work closely with the ISO-NE to ensure compliance with the dispatch plan and will vary from the plan only under ISO-NE direction or as a last resort to protect equipment from extreme weather and potential malfunction.

The O&M Manager and Performance Engineer will regularly monitor the generators' actual performance and compare that with predictive models. Condition Monitoring Systems will continuously be assessing the mechanical and electrical health of the generators. Any significant performance deviation or abnormal physical conditions will trigger further diagnosis and ultimately any maintenance that is indicated.

The operations team will rely on data management systems to compile thousands of streams of instrument inputs that will then be developed into usable information files and reports. Operators will use this information to make decisions regarding equipment operation and power production.

Operator control actions will be guided by well-proven safety policies and procedures that will ensure proper equipment shutdown and isolation for maintenance. The challenges of remote operation will require clear communications between personnel at the operations center and personnel at the offshore facility. Strictly enforced communication protocols and redundant telecom systems will be used to enhance safe operating practices.

11.1.2 MAINTENANCE

DWBI will develop an equipment life-cycle plan to execute routine maintenance and major maintenance overhauls; this plan will include protocols for both traditional power generating systems (turbines, generators, switchgear, etc.) and the offshore tower structural systems. The maintenance program will include a schedule for preventive maintenance inspections as recommended by the equipment manufacturers. A preventative maintenance program for the turbines, gearboxes and generators will utilize condition monitoring techniques to identify problems before emergency maintenance protocols are activated.

Under the direction of the O&M Manager, the Maintenance Engineers will monitor equipment conditions and assign maintenance tasks to the appropriately skilled DWBI technicians. A coordinated maintenance system will generate work orders and plan resources for all maintenance activities. The system will also record the results of each work order to ensure quality outcomes, accountability and preserve operating and maintenance history.

DWBI will operate the support vessels to transport maintenance personnel, contractors, tools, and equipment from the shore base to the offshore tower work sites. Floating crane services will be contracted to support offshore major maintenance and heavy lifts as necessary. Specialized contractors and vessels will be leased as necessary to implement scheduled submarine inspection and repair work.

11.2 FUNDING/WARRANTEE

As stated above, DWBI expects to purchase a five-year warranty on our offshore turbines, under which O&M services for the project will be provided by the turbine manufacturer. The O&M cost assumptions contained in the pricing estimates presented in Section 4 are based on estimates provided by a potential supplier of turbines to DWBI. Our pro forma financial model also assumes that additional project management and maintenance services during the warranty period will be provided by three to four employees of the Block Island Wind Farm. Deepwater's pro forma financial model assumes the annual warranty charge for an eight-turbine project will be approximately $740,000.

11.3 WARRANTEE TERMS

An annual warranty service check that will be conducted by the turbine supplier on its offshore wind turbine includes over 250 specific checks, inspections, or adjustment actions covering all the equipment supplied under the Turbine Supply Agreement (*Figure 11-1*). This service is provided by a team of about four of the manufacturer's service technicians, typically performed over a five-to-seven day period during summer months.

Figure 11-1: Equipment Covered in Warranty Servicing

Equipment	Check Points
Electrical system	44
Tower	21
Nacelle cover/bedplate	17
Yaw system	24
Transmission system	48
Pumping system for HS brake	18
Pumping system for yaw brake	46
Pitch system	38
Blades	9
Crane/safety equipment	16
Other	36

At the end of the warranty period, DWBI plans to create a robust parts supply inventory to service the Block Island Wind Farm; we will also assume all maintenance and operational responsibility for the wind farm. This will require the service of six to eight O&M technicians who will be employees of the project.

11.4 CONTRACT STATUS

Deepwater is in discussions with three prospective offshore wind turbine suppliers, regarding all the terms and conditions typical for a Turbine Supply Agreement, including the expected cost of their O&M service contract.

11.5 OPERATION AND MAINTENANCE EXPERIENCE

First Wind, an affiliate of DWBI, has extensive experience negotiating the terms of O&M service agreements for wind turbines and they have offered to support our efforts to secure favorable O&M service agreements. Please see Section 13 for a more detailed description of First Wind's experience and their relationship to the Generation Project.

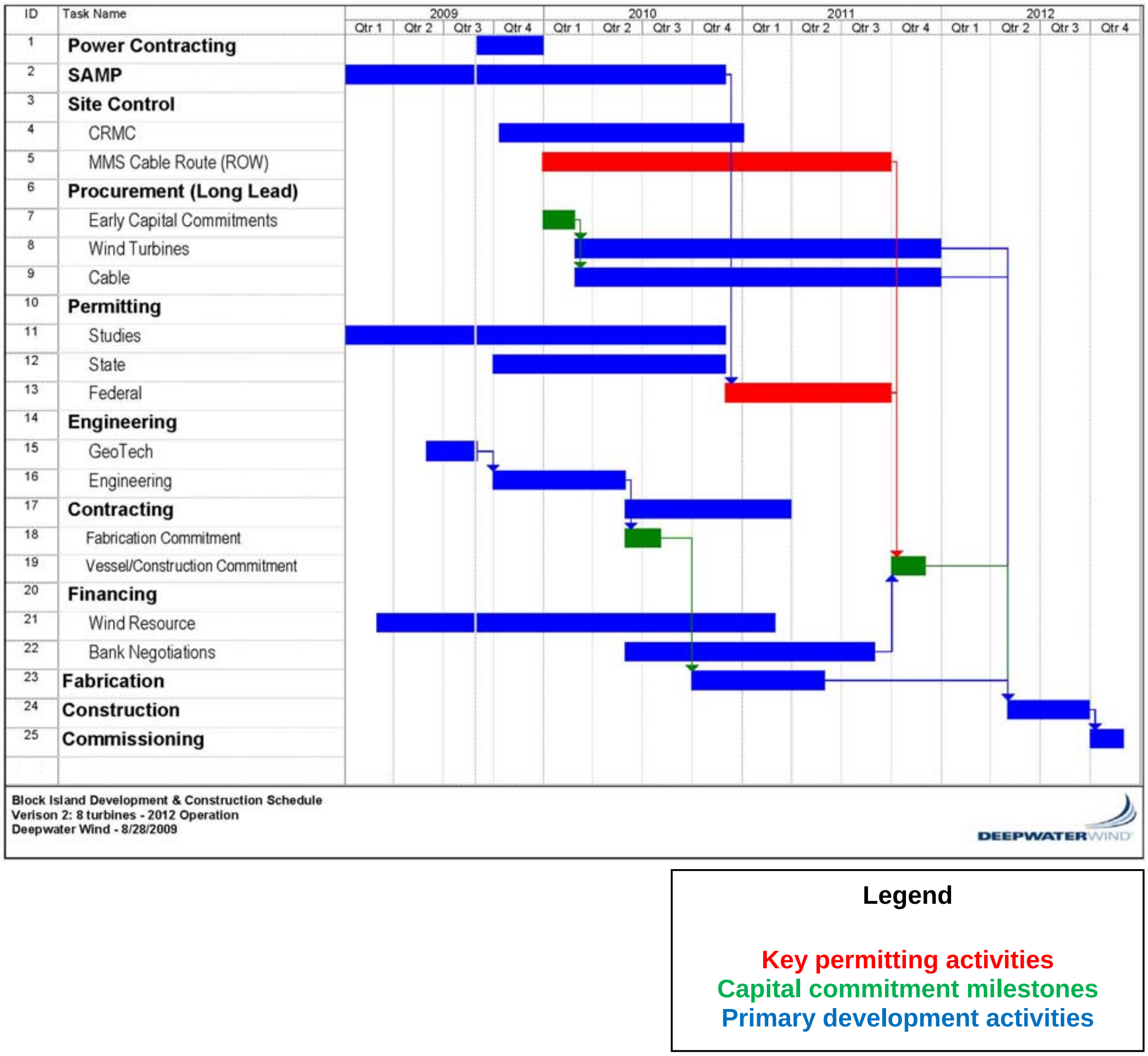
SECTION 12: PROJECT SCHEDULE

Figure 12-1 represents the project schedule, which incorporates all elements of the project from state permitting and zoning to financing and construction. The schedule was constructed by obtaining the best available information from the most reliable industry resources.

Key assumptions made in this schedule include:

- Eight offshore wind turbines sited approximately three miles off of Block Island.
- Completion by August 2010 of the Rhode Island Special Area Management Plan (SAMP) process. The SAMP will provide the necessary information to enable the Rhode Island Coastal Resources Management Council to determine whether our proposed project meets the state's coastal consistency zoning requirements.
- US Army Corps of Engineers permitting of six months upon application.

Figure 12-1: An overview project schedule, including all critical path components

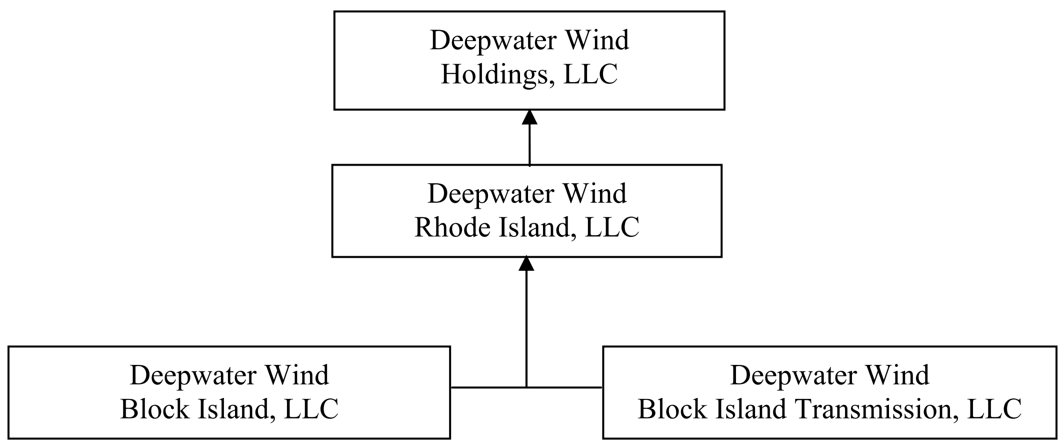


SECTION 13: PROJECT MANAGEMENT AND EXPERIENCE

Deepwater Wind plans to develop the project using a multi-contract contract approach, coupled with a project management firm that is responsible for overall integration of the various components of the project. This development method is our preferred alternative to typical engineer-procure-construct contracts that are more common for implementation of land based wind projects. Under a multi-contract approach, implementation of the project is broken up into a small number of discrete contracts that can each be executed with contractors that are experts in their various fields. This approach reduces costs and relies on professional project management.

13.1 ORGANIZATIONAL CHART

Figure 13-1: Deepwater Wind corporate organizational chart



13.2 PROJECT PARTICIPANTS

PROJECT MANAGEMENT STRUCTURE

Deepwater is evaluating two project management options: either separate supply and installation contracts coupled with a separate project management contract or a turn-key supply and installation contract. In either case overall implementation will be the responsibility of the Project Executive.

Figure 13-2a, below, depicts the Project Executive overseeing all aspects of the project from engineering through to commissioning. The fundamental role is to ensure that the scopes of work for all engineers, advisors, vendors, and contractors are integrated into a cohesive project development and construction plan that delivers the project on time and on budget. Separating out the supply contract from the installation contract requires separate retention of a professional project management entity and separately insuring against performance risks. This means of contracting is more complex than a turn-key approach, but is also likely to be less expensive.

Deepwater Wind will utilize Noble Denton in the role of project manager, which has been managing offshore engineering and construction for over 30 years. At present, Noble Denton is managing implementation of the 100-turbine Thanet project in the UK – the largest offshore wind project currently under construction. Noble Denton also owns Garrad Hassan the world-renowned wind resource experts. Gulf Island Fabrication, North America's largest jacket fabricator, and Norwind, the offshore marine contractor currently building the North Sea-based Alpha Ventus project that utilizes jacket foundations with 5 MW turbines are potential team members for our Block Island project.

Figure 13-2a:
Project Management with Separate Supply and Install Contracts

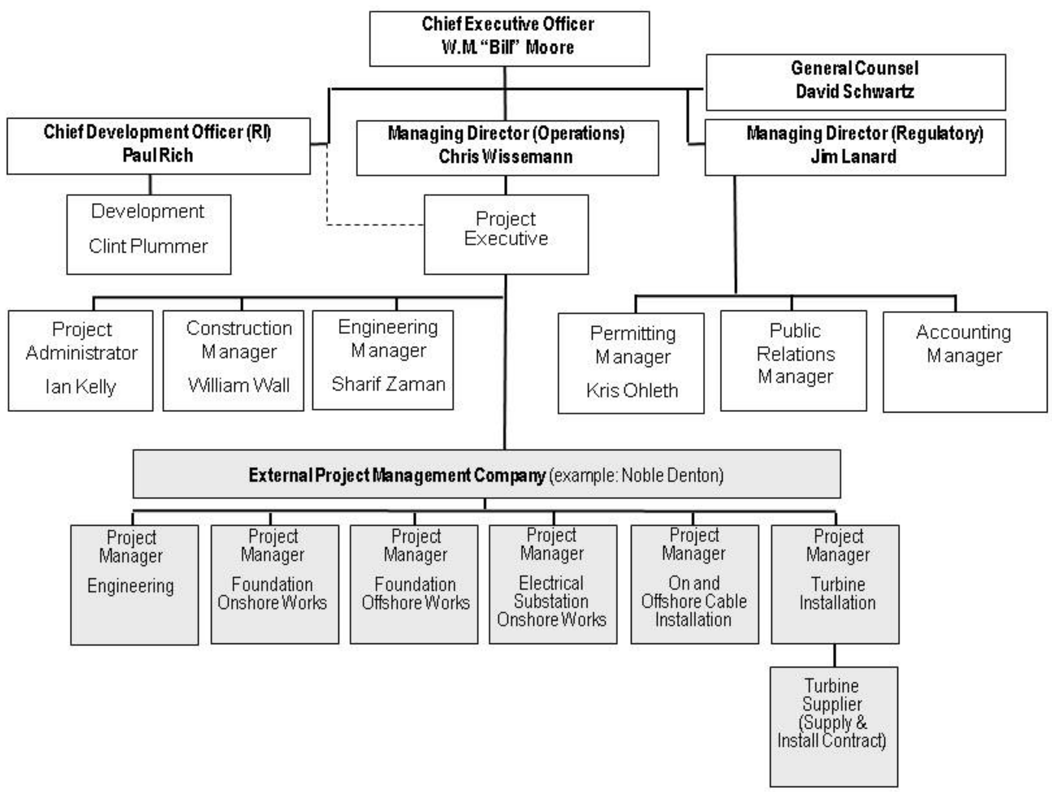
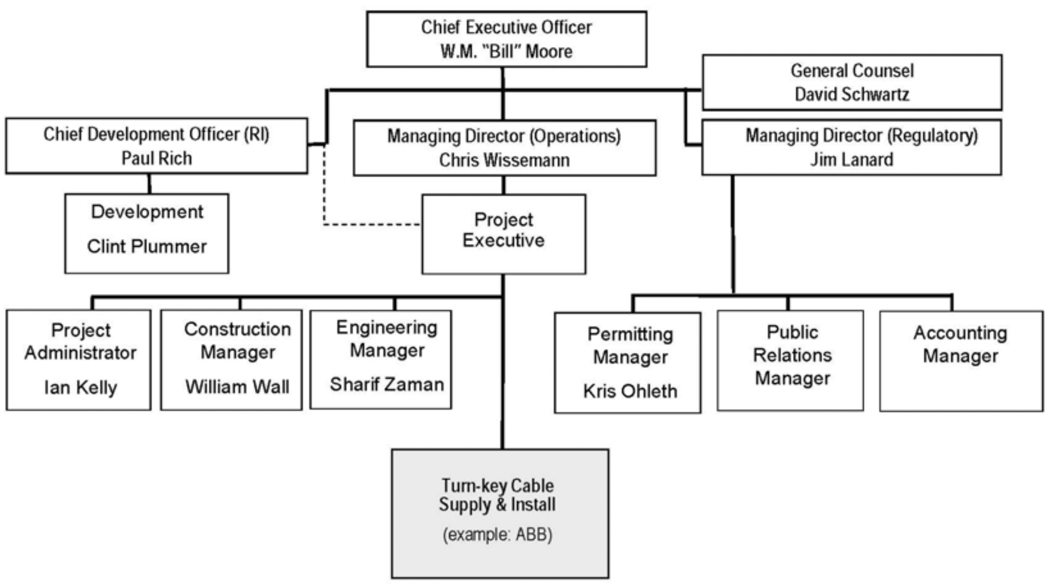


Figure 13-2b, below, depicts an example of a turn-key supply and install option for the supply and installation of the wind farm's submarine cable. This type of turn-key arrangement would result in having all installation and performance risk falling onto the cable supply and install contractor. While this is a valuable means of reducing risk, it is considerably more expensive.

Figure 13-2b
Project Management with Turn-key Operation



<u>Comment on Project Management Options.</u> Deepwater anticipates working with National Grid to determine which contract structure better meets National Grid's long term operations and maintenance goals. Indicative costs provided assume turn-key contracts.

CONTRACTOR EXPERIENCE

Figure 13-3, below, provides a sampling of relevant project experience for select contractors. Noteworthy projects in which team members have been involved are also referenced there. These experiences range from the first offshore wind project implemented utilizing jacket foundations to the largest jacket foundation ever constructed – the Bullwinkle platform built in 1,100 feet of water more than 20 years ago.

Figure 13-3: Contractor Experience

Select Contractors/ Advisors	Select Projects: Beatrice (Wind Farm) First built with Jackets	Thanet (Wind Farm) Largest Under Construction	Alpha Ventus (Wind Farm) Current Jackets Under Construction	Ormonde (Wind Farm) Largest Jacket Wind Farm	Neptune (Cable) Largest DC	Nysted (Wind Farm) Largest Operating	London Array (Wind Farm) Largest under Development	Vindeby (Wind Farm) First Built	Bullwinkle (Jacket) Largest ever Built
ABB			X	X		X	X		
Siemens					X	X	X	X	
OWEC Tower	X		X	X					
Noble Denton		X							
Norwind			X						
E & E					X				
OSI					X				
Gulf Island Fab									X
Garrad Hassan		X		X		X	X		
DNV	X	X	X	X		X			

13.3 KEY PERSONNEL

The Block Island Wind Farm team members have experience with dozens of major renewable energy projects. The organizational charts, in *Figure 13-2*, illustrate the division of responsibilities among Block Island Wind Farm's management team. Our management team has an impressive track record, including playing leading roles in the successful development of major submarine transmission systems, such as the Neptune Project and Maine's Fox Island Transmission System. Resumes of key project personnel are attached to this section as *Exhibit 13-1*.

Block Island Wind Farm will be managed by William M. Moore, Chief Executive Officer and Managing Director of Deepwater Wind Holdings. Mr. Moore is one of the most experienced wind project developers now active in the U.S. offshore market. He previously co-founded Atlantic Renewable Energy Corp., which, over a span of 10 years became the leading developer of commercial wind farms in the eastern U.S. Mr. Moore led the development of the 325 MW Maple Ridge Wind Farm (Lowville, NY), which remains the largest wind facility in eastern North America.

13.4 PROJECT EXPERIENCE

DWRI has been selected as the preferred developer by the State of Rhode Island to develop offshore wind projects there. Garden State Offshore Energy, a partnership between Deepwater and N.J.-based Public Service Enterprise Group (PSEG), was also selected by the State of New Jersey to be that state's preferred developer. In addition, Deepwater has secured a submerged lands lease on the outer continental shelf in order to construct an offshore meteorological tower as part of the development of that project.

First Wind, an affiliate of Deepwater, has over 5,500 MW of onland wind energy projects under operation or development. First Wind is an independent North American wind energy company focused exclusively on the development, ownership, and operation of wind farms. First Wind was founded by individuals who successfully developed and operated wind energy projects in Italy and sought to apply their skills and experience in the rapidly growing markets of North America.

Currently, First Wind is focused on developing wind energy projects in the northeastern and western regions of the continental U.S. and in Hawaii. First Wind employs 179 professionals in eight states and has a depth of expertise in project development areas such as wind project development, generator lead expansion, meteorology, engineering, permitting, construction, finance, law, asset management, maintenance, and operations. First Wind also has direct experience within current and targeted markets in dealing with land control issues, establishing stakeholder relationships, managing meteorological programs, conducting community initiatives, and developing transmission solutions.

As of August 31, 2009, First Wind had 274 MW of operating capacity and another 204 MW under construction with a scheduled commercial operation date in November 2009. Included in First Wind's current operating capacity are five successful wind energy projects:

1. *Kaheawa Wind Power I*: 30 MW, which is the largest operating utility-scale wind energy project in Hawaii.
2. *Mars Hill:* 42 MW, which was the largest operating utility-scale wind energy project in New England, until First Wind commissioned its Stetson I wind energy project in January 2009.
3. *Stetson I:* 57 MW, which is the largest operating utility-scale wind energy project in New England, and like Mars Hill, is located in Maine.
4. *Steel Winds*: 20 MW, which is the first wind energy project built on a brownfield site, located in New York.
5. *Cohocton:* 125 MW, commissioned in January 2009, located in New York.
6. *Under Construction: Milford I*: at 204 MW, Milford I will be the largest wind energy project in Utah.

First Wind, which is jointly owned by the D. E. Shaw group, Madison Dearborn Partners, and First Wind management, has successfully raised in excess of $2 billion of capital to build its five current operating projects, including a $376 million construction financing for its Milford I project in the difficult financing markets of early 2009. In 2009, First Wind also refinanced turbine supply loans at its Cohocton and Stetson projects with longer term financings as part of a restructuring with its key relationship bank. First Wind also raised $115 million of mezzanine capital from a non-traditional financing source secured by a residual interest in its Cohocton, Stetson, and Steel Winds projects.

Deepwater will draw on First Wind's technical, development, and commercial financing expertise. First Wind's Chief Executive Officer, Paul Gaynor, and President, Michael Alvarez, are Deepwater board members and have been actively involved in the preparation of this proposal.

13.5 PROJECT TEAM

Construction Period Lender, if any

TBD

Operating Period Lender and/or Tax Equity Provider, as applicable

TBD

Financial Advisor

TBD

Risk Management and Insurance Advisor

Meyers-Reynolds is a risk management and insurance company directly involved in many aspects of the power generation/utility business. With an in-depth working knowledge and hands-on industry expertise, Meyers-Reynolds provides the broad perspective necessary to address the myriad evolving risk management and insurance issues that face the power generation industry.

Environmental Consultants

Ecology and Environment (E&E) has extensive and recent experience conducting siting, environmental analyses, and permitting for offshore energy projects worldwide, including offshore wind farms, LNG terminals, deepwater ports, FPSOs, and subsea pipeline and electrical transmission cable projects. E&E has provided primary permitting services in the development of over 1,600 MW of onland wind across the country.

AECOM Environmental will support the Block Island Wind Farm's permitting efforts. AECOM is a global leader in providing integrated planning and engineering solutions. AECOM supports efforts to reduce energy consumption, develop renewable sources, improve grid reliability and cut emissions from fuels already in use.

Owner's Engineers

Noble Denton (ND) provides life cycle marine and offshore engineering services to the oil and gas, marine and renewable energy industries. ND issues marine warranty approvals for some of the world's largest field developments; the company's pioneering nature serves to attract businesses that need development and installation of innovative platform concepts such as Tension Leg Platforms, Spars and the world's first floating production facility. ND's expertise in the oil and gas sector has led offshore wind developers to them; ND's project management and foundation installation services are currently being provided to the Vattenfall-Thanet Wind Farm, planned to be the largest wind farm project in the world.

OWEC Tower is an offshore wind design and engineering firm based in Norway. OWEC developed a patented turbine jacket foundation that is being used in the Beatrice offshore wind farm project off the coast of Scotland; additional foundations and turbines are scheduled for installation at the project site in the coming years. Deepwater has an exclusive franchise agreement with OWEC to use their jacketed foundations. For a schematic of the OWEC tower foundation, see *Figure 10-2*.

GZA GeoEnvironmental, Inc. is a soils and foundations specialty consultant providing a wide range of geotechnical engineering, environmental consulting and remediation services. GZA has been involved in offshore wind projects in the Northeastern United States over the past several years. The success of these offshore projects is dependent upon adequate submarine and overland cable transmission infrastructure; GZA has the necessary expertise to get the job done.

Ocean Surveys, Inc's (OSI) capabilities include hydrographic, oceanographic and limnologic, geophysical and geotechnical survey services. Ocean Surveys has successfully completed site investigations in 35 states and 40 countries located throughout six continents. OSI has worked on a number of projects similar to the Block Island Wind Farm, performing desktop studies to compile geologic, oceanographic, sediment chemistry, and maritime activity background information supporting the feasibility assessment of projects.

Transmission Consultants

ABB has significant expertise in power and automation technologies that enable utility and industry customers to improve performance while lowering life cycle costs and environmental impacts. The ABB Group of companies operates in nearly 100 countries and employs about 115,000 people. ABB's power technologies business incorporates its manufacturing network for transformers, switchgear, circuit breakers, cables and other associated equipment. ABB pioneered the development of HVDC technology for wind farm grid integration with a 43-mile long 50 MW underground cable interconnection on the island of Gotland in the Baltic Sea in the late 1990s. ABB is currently constructing a record 124-mile long HVDC submarine and underground cable system that will interconnect a large 400 MW offshore wind farm in the North Sea to a 400 kV AC substation in northern Germany.

Siemens PTI is one of the world leaders in the transmission and distribution field. Siemens has developed sophisticated products and solutions for transmission and distribution network instrumentation, monitoring, and control. Siemens Smart Grid technologies have proven their reliability, availability, and cost-efficiency in a number of different projects around the globe – in Austria, Canada, China, England, Germany, New Zealand, Saudi Arabia, Sweden, the UAE, and the USA. Siemens PTI has also delivered consulting services in power systems for a number of HVDC projects, with both conventional and HVDC light technologies, for clients in the USA, Malaysia and Indonesia

Careba Mott MacDonald is a power engineering company that provides engineering, design and on-site support to power plant and transmission developers, contractors and power distribution utilities. Careba has extensive experience with the engineering and design of major power generation, distribution, and transmission projects.

CRA International (CRA) is a leading economics and business consulting firm, with over 900 professional staff in the US, Europe, Canada and the Asia Pacific region. CRA advises a range of clients on transmission and asset development. CRA maintains both a business and a financial advisory capacity, along with a sophisticated power markets modeling capability that was designed to model transmission constraints and their impacts on investor cash flows.

Environmental Crossings develops alternative, non-conventional methods of placing power lines under streams, rivers, marshes, wetlands, beaches, estuaries, highways, protected habitats, and other sensitive areas. Their team has many years of experience involved in directional drilling with over 1000 HDD (Horizontal Directional Drilling) crossings, both domestic and international. HDD projects include drilling in all types of rock and alluvial soils.

Legal Counsel

HAS Law is a leading Providence-based law firm, with comprehensive experience in a variety of issues salient to our project, including energy, environment, and construction law. Their energy group has represented public utilities and other energy providers, merchant electric generating plant developers and owners, construction companies, manufacturing and institutional energy users, financing sources and conservation providers. HAS Law's environmental group counsels clients in every aspect of environmental law, including regulatory compliance, counseling, real estate and corporate due diligence, permitting, insurance coverage issues, and environmental litigation. Their construction group has extensive experience with large and complex regional, national and international construction and development projects.

Exhibit 1: Resumes of Key Personnel

WILLIAM M. MOORE

PROFILE
Entrepreneurial energy industry professional experienced in the development and financing of wind energy projects, complex sales, analytics and modeling, deal-making and negotiations, financial structuring and asset underwriting.

EXPERIENCE
Deepwater Wind LLC
CEO and Managing Director
Manages all development and permitting activates for Deepwater Wind, LLC.

Atlantic Renewable Energy Corporation (leading developer of commercial wind farms in the eastern US, acquired by PPM Energy in 2005)
Co-Founder 1998 - 2005

- Company grew into the leading developer of commercial wind farms in the eastern US
- Lead developer of the 10 MW Madison (NY) and 30 MW Fenner (NY) wind projects, as well as the 325 MW Maple Ridge Wind Farm in Lowville, NY
- Did the early development of Atlantic Renewable's mid-Atlantic wind farms: the 15 MW Mill Run, 6 MW Somerset and 44 MW Meyersdale wind plants—the first commercial wind powered generating facilities in Pennsylvania—along with the 66 MW Mountaineer (WV) wind plant (all of which are now owned and operated by FP&L Energy)
- Worked for PPM Energy on the development of a 500 MW portfolio of wind farms in northern NY until the end of 2008. (PPM Energy is now part of the Iberdrola Group of companies, the largest owner/operator of wind farms in the world)

Previous to founding Atlantic Renewable Mr. Moore:

- Led the development and financing of the Tierras Morenas and Aeroenergia wind farms in Costa Rica for EnergyWorks, a Landover (MD) based joint venture of PacifiCorp and Bechtel
- Financed numerous independent power projects for US Generating, a Bethesda, MD based PG&E/Bechtel joint venture
- Arranged debt financings, and provided other investment banking services, for a range of utility and independent power clients for CS First Boston in NYC.
- Prior to graduate school he was involved in energy and environmental policy work in Massachusetts

EDUCATION
Yale College New Haven, CT
Bachleor of Arts in Economics, Cum Laude 1978

Yale School of Management *MBA* 1988

CHRIS WISSEMANN

PROFILE

Highly experienced energy professional with a career in alternative and renewable energy that spans 25 years. Focus has been on non-traditional power development while specializing in technical aspects of power generation technologies as well as economics, permitting, market-making, and finance.

EXPERIENCE

Deepwater Wind LLC

Founder, Chief Operating Officer

Manager of all strategy, engineering and construction, and infrastructure development. Responsible for managing all of Deepwater Wind's technical operations.

Northern Power Systems

Vice President 2004 - 2005

- Responsible for business development in the Northeastern United States, focusing on distributed generation and alternative energy projects
- Developed first grid interconnected synchronous distributed generation project in Manhattan
- Created subsidiary to build, own and operate large-scale solar photovoltaic systems

RealEnergy, New York

Senior Vice President 2002 - 2004

- Responsible for sales, design, construction and operations of RealEnergy's distributed generation systems in the Northeastern United States

Enron Energy Services, Houston Texas

Vice President 1998 – 2001

- Created and managed team responsible for structuring EES' Demand Side Management and Operations & Maintenance services in company's largest outsourcing transactions
- Created structure, pricing and service delivery strategies, directed negotiations

Enersave, Inc., New York

Executive Vice President, Chief Operating Officer 1990 – 1998

- Co-founder of private energy services company structured to deliver Demand Side Management services to electric utilities as well as retail energy consumers under long term contracts
- Services ranged from delivery of efficiency derived electric capacity to strategic consulting and construction management for customers across the Northeast

Energy Investment, Inc., Boston

Program Manager 1988 – 1990

- Originated, managed and delivered energy related consulting services for clients including Fortune-500 commercial and industrial companies and government agencies
- Focus ranged from research and policy to creation of site specific demand side management strategies

Turner Power Group, Inc., New York

Project Manager 1986 – 1988

- Managed design and construction along with technical sales support services in joint venture between DAS/Power Systems and Turner Construction to develop independent power plants

DAS/Power Systems, Inc., New York

Systems Engineer 1983 – 1986

- Sales support and project management of commercial solar and packaged cogeneration systems financed using syndicated third-party financing sources structured to take advantage of investment tax credits (focus was on small systems under 500 kilowatts)

EDUCATION

Brown University Providence, RI

BA in Energy Studies 1983

JAMES S. LANARD

PROFILE

Business development professional specialized in: project feasibility analysis and implementation, including siting of high profile initiatives; energy and environmental policy analysis and advocacy; government relations; community, public and media relations; media training

EXPERIENCE

Deepwater Wind, LLC *Managing Director*

Manages the regulatory affairs, legislation, and media relations for Deepwater Wind.

Bluewater Wind offshore wind companies (Babcock and Brown LLP owners)

Head of Strategic Planning and Communications, Government and Public Relations 2007 - 2009

FLG Strategies, LLC *President* 1999 - 2007

Lanard & Associates *President* 1995 - 1999

- Provide strategic planning and government, communications and public relations counsel to clients
- Defend investor-owned utilities from threats to franchise rights (stop hostile takeovers) and support transition activities from regulated monopoly to free market businesses
- Florio for U.S. Senate Primary (leave of absence from FLG): Co-Campaign Manager, Communications Director and Spokesman, February to June 2000

The Walt Disney Company, Disney's America *Director of Government Relations & Environmental Programs* 1994-95

- Director of government relations activities for $650 million development with major regional transportation plan (VA, MD and DC MPO)
- Member of project's Executive Committee; supported development of environmental policies

Beckel Cowan, a Cassidy Company (Washington, DC) *Senior Associate* 1990 - 1994

- Developed and implemented strategic communications and government relations programs
- Project Director: Disney's America theme park and associated development; landfill and mega store development initiatives; Superfund reauthorization campaign; state waste flow legislation

U.S. Representative Frank Pallone (NJ), *Chief of Staff/Legislative Director* 1989 - 1990

- Provided counsel on Public Works and Transportation Committee matters
- Chief political advisor and coordinator of policy development
- Managed staff for legislative business and constituent relations

Israel Environmental Protection Service (EPS), Jerusalem, Israel 1987 - 1988

- Advised EPS and non-governmental organizations on methods to develop support for environmental and transportation initiatives in Israel
- Developed proposals that resulted in establishment of cabinet-level advocacy agency

New Jersey Environmental Lobby *Executive Director* 1982 - 1986

Clean Air Council (Philadelphia) *Executive Director* 1978 - 1981

- Interacted with diverse members of Boards of Directors; managed staff and volunteers and directed administration of organizations; leader of state environmental Political Action Committee (NJ)
- Formed and directed grassroots advocacy coalitions, including precedent-setting broad-based labor and environmental coalition
- Developed legislative initiatives on waste clean-up, recycling, transportation, and worker and community health and safety issues

Rutgers University Visiting Assistant/Adjunct Professor 1983 -1986

Drexel University Adjunct Assistant Professor in Graduate School 1979 - 1980

EDUCATION

Boston University, Boston, MA *Bachelor of Science in Political Science,* Cum laude 1970 – 1974

University of Miami School of Law, J.D. 1978

Admissions: Bars of Pennsylvania (1978), Florida (1979) and New Jersey (1981)

PAUL M. RICH

PROFILE
Project developer and energy industry professional with over 20 years experience in project siting, financing, and development.

EXPERIENCE
Deepwater Wind, LLC *Chief Development Officer Present*
Overseeing the development effort of Deepwater Wind, Rhode Island. Responsibilities range from strategic planning and media/government relations to electric transmission interconnection oversight and budgeting.

Cross Hudson Cable, LLC *Chief Development Officer 2007-2009*
- Oversaw the organization, development and securing of all Federal, State, and Municipal permits
- Identified facilities siting and negotiating rights-of-way
- Interfaced with constituent groups and governmental agencies
- Created and implemented government and community outreach
- Oversaw the construction and route design

OEST Associates, South Portland *Business Development Director 2003-2007*
- Helped oversee all aspects of business development, marketing and project management for 90+ architects, professional engineers, and surveyors.
- Specific Projects, included:
  - Hydrogen Fuel Cell Project - Chewonki Environmental Education Center, Wiscasset
  - Passamaquoddy Indian 240MW Tidal Energy Project - Eastport, Maine

NeptuneRTS, Atlantic Energy Partners *Chief Operating Officer 2001-2003*
- Tactician, Team Leader, and Day-to-Day Operations Manager of $550 million project known as Neptune Regional Transmission System: an innovative 660MW underwater high-voltage direct current (“HVDC”) electrical transmission project connecting energy resources in New Jersey with energy-starved areas of Long Island.
- Environmental and Construction Permitting. Developed and organized the Federal, State and local permitting strategy and agency outreach as the leader of the Permitting Team.
- Government Relations. Forged and maintained strong relationships with key federal officials, regulators, and New York and New Jersey elected officials at state and local levels.
- Community Outreach and Public Awareness. Orchestrated and successfully led public education efforts with the public and with civic groups
- Engineering and Technical Design Team Management. Spearheaded efforts of Owner’s Engineers and Technical Design subcontractors on critical path items, life-cycle engineering and budgets.

Libra Foundation, **Portland** *Senior Program Development Consultant 1998-2001*
- Investigated, developed, coordinated, implemented and oversaw long-range programs and special projects undertaken by Libra Foundation, a Maine-based nonprofit foundation with over $320 million in assets.

Tom Allen for US Congress Campaign, Portland *Policy and Research Director 1996-1997*
- Researched and developed policy for the candidate in his successful challenge for Maine’s 1st US District.

United States Navy *Lieutenant Commander, Surface Line Officer 1985-1996*
- Managed personnel, oversaw budgets, designed long range and tactical planning of several divisions and departments on naval combatants in a variety of management positions.

EDUCATION
Harvard University, John F. Kennedy School of Government, Cambridge, MA, Public Administration, 1998
Defense Language Institute, Monterey, CA, Certificate of proficiency in German Language, 1989
Maine Maritime Academy, Castine, ME, Bachelor of Science, Marine Engineering, 1985

WILLIAM F. WALL

PROFILE
Worldwide marine construction professional with over 30 years of experience specializing in submarine cable and utility installation and maintenance.

EXPERIENCE
Deepwater Wind LLC
Vice President, Development
Oversees all offshore logistical planning and meteorological deployment activates. Responsibilities range from third party contract negotiation to budgetary planning.

Caldwell Marine International 2003 – 2007
General Dynamics *VP Business Development* 2001 – 2003
Margus Co. Inc. *Vice President* 1983 – 2001
Cable & Wireless Marine Sub. *Cable Engineer* 1972 – 1983
British Telecom OSP Engineer 1968 – 1972

Summary of Skills:
- In-Depth knowledge of the complete submarine cable & utility procurement and implementation process
- Sales, marketing and contract negotiation experience covering the complete spectrum of marine projects, including risk management, insurance, indemnity, warranty and other contract areas
- Project development & financing
- Labor & project staffing experience in the NY*I*NJ marine market
- Hands-on project management experience in marine construction and submarine utility projects including submarine cables and pipelines
- Qualified in all aspects of submarine utility burial and embedment

Representative Projects:
- *Long Island NY:* 345kV NYPA Submarine cable project - Lay & burial of 4 EHY SCFF cables across LI Sound. Project Manager for cable embedment.
- *Rockland ME:* Fox Island Project - Turnkey supply and installation of 16kM of 35kV *3/C* submarine cable buried to 2m burial depth.
- *Long Island NY:* ConocoPhillips Project - Major marine construction upgrade to the ConocoPhillips offshore loading facility in Long Island Sound, including the installation of 60" diameter mono-piles, 170' in length.
- *NYC Harbor NYINJ:* USACE Pipeline Recovery Project - Survey, location and recovery of approximately 22 out-of service submarine pipelines. Work included QC procedures including strict adherence to environmental concerns of recovering aging submarine pipelines.
- *Long Island NYlNorwalk CT:* Cross Sound Cable - Standby repair contract for the HVDC submarine cable system connecting Connecticut and New York across LI Sound.
- *London, England:* Centrica Project - Consultant engineering contract to advise a major UK energy company on the installation of Round 2 offshore wind farms in shallow water offshore the east coast of England. Desk Top Study presented to Centrica upper management in London.
- *San Juan Islands WA:* Turnkey supply and installation of a 69kV *3/C* submarine cable system inter-connecting 4 islands. All buried to 2m burial depth.

EDUCATION
City & Guilds Engineering Institute London, England
Final Certificate 1975 - 1979

CLINTON L. PLUMMER

PROFILE
Entrepreneurial development professional experienced in team-building, project origination and complex sales, analytics and modeling, deal-making and negotiations, financial structuring and asset underwriting.

EXPERIENCE
Deepwater Wind LLC
Vice President, Development
Manages all early stage development activates for Deepwater Wind, LLC. Responsibilities include project feasibility assessment, environmental planning, and financial modeling.

Endurant Energy LLC (a portfolio company of Rho Capital Partners, Inc.) Hoboken, NJ
Vice President, Asset Development and Underwriting 2006 - 2007
- Built and led a small internal team (one deal attorney and one analytic support person) focused on development of distributed energy assets in Eastern United States.
- Originated and led asset underwriting for (i.e. site assessment, project concept development, financial modeling, credit risk analysis, etc.) a US$l00 million pipeline of distributed energy projects.
- Designed a documentation structure, managed a team of attorneys which created forms of agreement and negotiated commercial terms for the development of a 5MW landfill-gas-to-power project.
- Structured, among others deals, a joint-venture with a leading Real Estate Investment Trust for the development of a 6 MW co-generation system at the 4th largest building in New York City.
- Secured a total of approximately US$15.5 million in government incentive funding for the development of ten separate power generation projects.

Redwood Power Company, Inc. Cambridge, MA
Founder and President 2004 - 2006
- Founded and led Redwood to develop retail (i.e. "behind-the-meter") distributed power generation projects which offered rates of return acceptable to private equity investors.
- Originated and developed distributed power generation projects in commercial office buildings owned by large real estate investment trusts (e.g. Boston Properties, Trizec Properties, among others).
- Managed the legal team which created forms of agreement and development documents for all deals
- Developed structure, negotiated terms and secured US$50 million equity line of credit for investments in distributed power generation projects.
- Sold development pipeline to Endurant Energy in 2006; resulting in a 7.5% year-over-year return to all investors in Redwood.

Massachusetts Institute of Technology Cambridge, MA
Research Associate, Engineering Systems Division 2003 - 2004
- Researched and co-authored whitepapers on applications of auction theory.

EDUCATION
Massachusetts Institute of Technology Cambridge, MA
Master of Engineering 2002 – 2003
- Coursework in Engineering Systems Analysis for Design, Probabilistic Systems Analysis, System Dynamics, Dynamic Pricing, Finance Theory and Asset Pricing Models.
- Research and master's thesis exploring applications of auction theory.

The Ohio State University, Fisher College of Business Columbus, OH
Bachelor of Science in Business Administration, Magna Cum Laude, with honors 1998 - 2002
- Honors include Dean's List, 1998-2002. National Society of Collegiate Scholars, 1999. Fisher College Honors Cohort, 2000-2002. Vice-President, Fisher College Pace Setter Student Award, 2001. Dean's Leadership Committee Chairman, 2001-2002. Robert E. Georges Pace Setter Senior Award, 2002.
- Internships with C.R. Robinson, ABB (Asea Brown Boveri) Automation and Owens Corning.
- Extemship with Arthur Andersen Business Consulting.

AWS Truewind

463 New Karner Road
Albany, NY 12205

Voice: 518-213-0044
Fax: 518-213-0045
aclark@awstruewind.com

TO: Clint Plummer, Deepwater Wind, LLC
FROM: Andrew Clark, Project Manager
DATE: August 28, 2009
RE: Conceptual Layout and Capacity Factor Estimates for the Block Island Project

This report summarizes the results of a study conducted by AWS Truewind provide a preliminary estimate of the energy production potential of the proposed Block Island project, located offshore of Block Island, RI. Using wind resource data derived from a model and AWS Truewind's experience in the region, a preliminary assessment of the long-term wind resource and operational capacity have been provided. Mean wind speeds were estimated for an 80 m hub height. The wind speed and energy production uncertainty estimates were defined as well.

Using the wind resource estimates, together with a site-specific air density, the gross and net capacity factors were estimated using the Siemens 3.6MW (IEC class Ia, 3.6 MW, 107 m rotor diameter) turbine. The energy production estimates assume typical loss factors (e.g., wake, electrical, high wind hysteresis, maintenance downtime, and icing and blade degradation) experienced by wind projects in similar climates.

AWS Truewind also reviewed additional modeling data provided by Deepwater Wind and Rutgers University. The provided data was reviewed for consistency with AWS methods and findings, and a brief discussion is included.

Appendix A

Conceptual Layout of Offshore Block Island Project Summary

Overview of Wind Resource

Using its MesoMap system, AWS Truewind has predicted the long-term mean annual wind speed at 80 meters above mean sea level at a resolution of 200 m. AWS Truewind has provided summaries that include modeled estimations of capacity factors, plant size, and uncertainties.

This analysis concluded that the predicted average free wind speed of the Block Island site at 80 m is expected to range between 9.06 m/s to 9.16 m/s, with an overall estimated site average of 9.13 m/s.

The directional distribution of the wind resource is an important factor to consider when designing the wind project to minimize the wake interference between turbines. The estimated frequency and energy distribution by direction plot (wind rose) is shown in Figure 1. The model indicates that the prevailing winds occur with the greatest frequency and energy out of the southwest.

MesoMap Configuration

The standard MesoMap configuration was used to produce the wind resource maps. The mesoscale model (MASS) simulated regional weather patterns with a grid spacing of 2.5 km. The microscale model (WindMap) simulated the localized effects of topography and surface roughness on a grid spacing of 200 m. The source of topographic data was the National Elevation Dataset, a digital terrain model produced on a 30 m grid by the US Geological Survey (USGS). The source of land cover data was the National Land Cover Dataset, which is derived from Landsat imagery, and was also produced by the USGS on a 30 m grid. Both data sets are of very high quality.

Conceptual Layout

The client provided an 8 turbine layout that takes advantage of the most energetic winds within the defined study area (2-3 nautical miles offshore of Block Island). The layout is oriented in a curvilinear shape that is roughly perpendicular to the southeastern shore of Block Island.

Preliminary Plant Capacity Estimates

For this study, AWS Truewind estimated both the gross and net capacity factor for the Block Island site. The preliminary energy production estimate was determined using data from a wind resource model, which should not be considered a substitute for on-site measurements. The turbine power curves were interpolated to the site air density, which is estimated to be 1.24 kg/m^3 at 80 m. A loss of approximately 16.6% was assumed for the layout. The capacity factor estimate for the layout is shown in Table 1. The results of this study indicate that the Block Island project has a wind resource that is suitable for commercial wind energy development.

Wind Resource Estimate Uncertainty

The accuracy of the data, which is derived from the MesoMap system, has been verified by comparing map predictions with independent observations for over 1000 stations around the world. This validation program is by far the most extensive ever carried out for a wind mapping system. The National Renewable Energy Laboratory has been closely involved in the validation to ensure its objectivity. In simple wind regimes (such as open plains or well offshore), the root-mean-square (rms) error has typically been found to be 5% or less. In complex wind regimes such as Wyoming and coastal Brazil, the rms error (after accounting for uncertainty in the measurements) is typically 0.3-0.5 m/s, or 5-7% of the mean speed. This is comparable to the error margin associated with one year of measurement from a 50 m mast. It should be stressed that the mean wind speed at any particular location may depart substantially from the predicted values, especially where the elevation, exposure, or surface roughness differs from that assumed by the model, or where the model scale is inadequate to resolve significant features of the terrain.

Rutgers Modeling Review

We have reviewed the Rutgers project area long-term wind resource estimates using the WAsP and Weather Research Forecast (WRF) models and have the following comments. First, we have little confidence in the ability of the WAsP model to predict the project area wind resource given an initiation point at the National Weather Service Automated Weather Observing System (AWOS) site on Block Island. Several potential sources of error include the characterization of the surface roughness conditions around the AWOS site, the transition from a relatively high surface roughness near the AWOS site to the offshore environment, and the assumed shear value from monitoring height to the proposed 80 m hub height. As noted by Rutgers, the WAsP estimated project area mean wind speed appears to have a considerably high bias.

The WRF model was used to create a virtual met mast at a point near the proposed project area. The resulting 80 m hub height speed estimate is 8.68 m/s, about 4.9% lower than our predicted array-average speed of 9.13 m/s. One reason for the discrepancy in the wind speed predictions is the difference in the shear estimate between the WRF and AWS Truewind's MASS/WindMap models. The WRF model shear is about 0.08-0.09 in the 50 m to 80 m layer, while our models predict a shear of 0.14. Other offshore platforms publicly available or in our database suggest shear values in similar environments of about 0.13. Applying our shear value to the WRF predicted 50 m speed yields a hub height speed of 8.92 m/s, roughly 2.3% lower than our array-average. The difference is well within the assumed accuracy of the models.

Appendix A

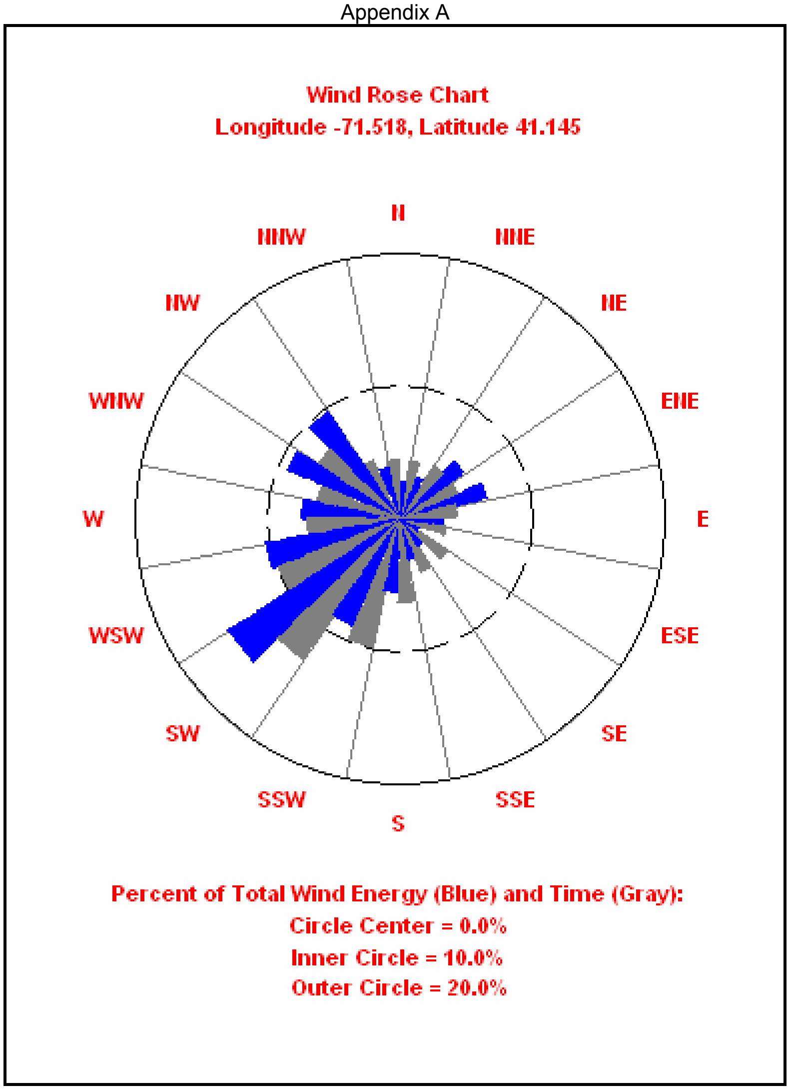


Figure 1. Block Island Modeled Wind Rose

Appendix A

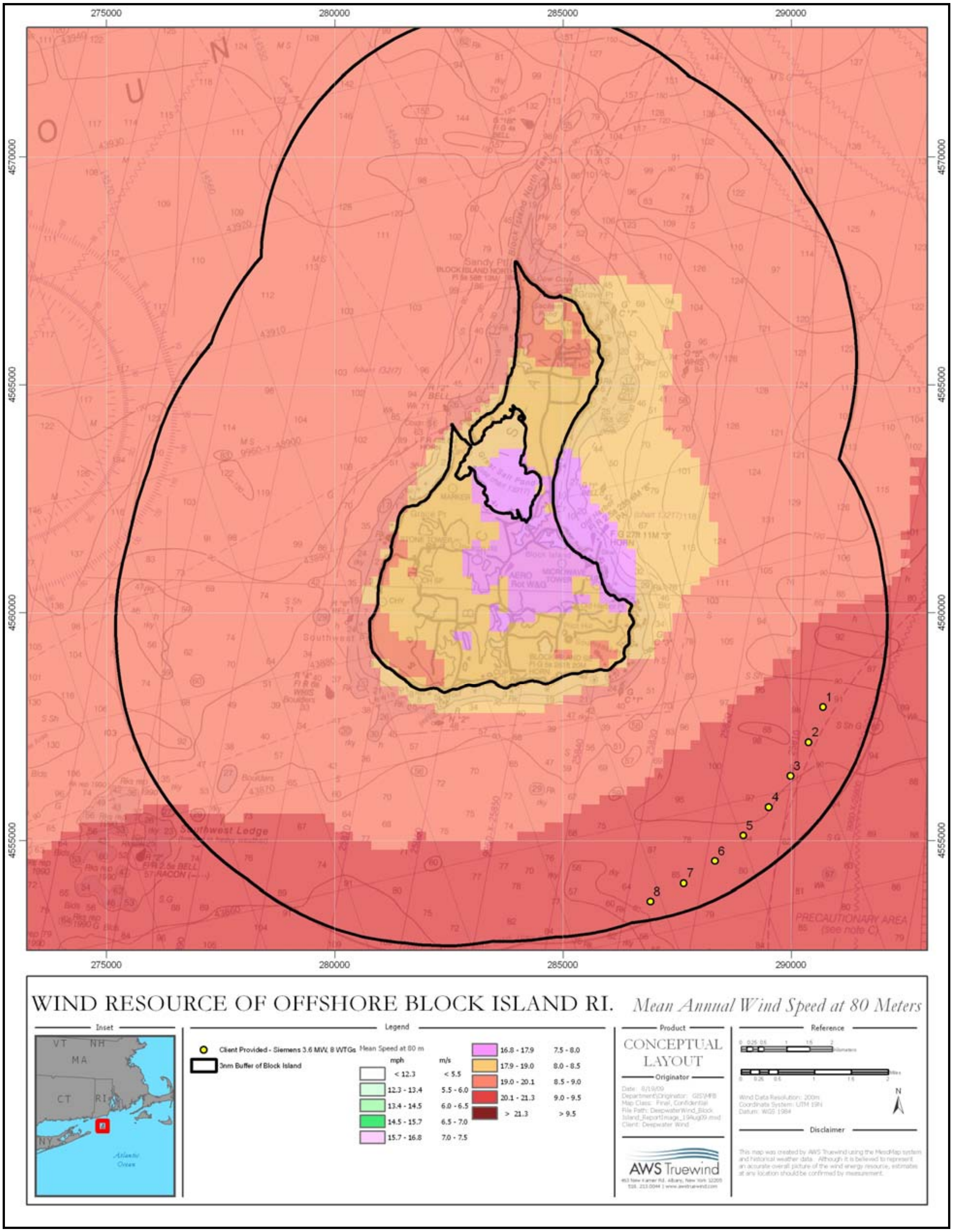


Figure 2. Client Provided Layout, Siemens 3.6MW

Appendix A

Table 1. Plant Production Estimates

Scenario	Client Provided Layout
Turbine Model	Siemens 3.6MW
Total Plant Size (MW)	28.8
Number of Turbines	8
Gross Plant Production (MWh / yr)	121,225
Net Plant Production (MWh / yr)	101,091
Gross Capacity Factor	48.0%
Net Capacity Factor	40.0%
Average Total Loss	16.6%
Wind Speed Uncertainty	10.0%
Gross Energy Uncertainty	16.0%
Net Energy Uncertainty	20.0%

Table 2. Loss Percentages

Loss Accounting	Client Provided Layout
Wake Effect	1.6%
Availability (high wind events, collection/substation, utility grid, re-start after outage)	6.3%
Electrical (efficiency)	4.0%
Turbine Performance (high wind control hysteresis)	0.6%
Environmental (icing, blade degradation, site access, lightning)	5.2%
Curtailments	0.0%
Average Total Loss	**16.6%**

Appendix A

Project:	**Deepwater Wind - Block Island**	
Date:	**19-Aug-09**	
Comments:	**Client Provided Layout**	
Turbine Model:	**Siemens - SWT-3.6-107**	
Turbine Rated Power:	**3.60**	**MW**
Hub Height:	**80**	**m**
Number of Turbines:	**8**	
Plant Capacity:	**28.8**	**MW**
Site Air Density:	**1.24**	**kg/m^3**

Loss Accounting	
Wake Effect	**1.6%**
Availability	**6.3%**
Electrical	**4.0%**
Turbine Performance	**0.6%**
Environmental	**5.2%**
Curtailments	**0.0%**
Average Total Loss	**16.6%**

Overall Wind Plant Summary	
Average Free Wind Speed (m/s)	**9.13**
Gross Plant Production (MWh/yr)	**121,225**
Net Plant Production (MWh/yr)	**101,091**
Net Capacity Factor	**40.0%**
Gross Capacity Factor	**48.0%**

Uncertainty Summary	
Wind Speed Uncertainty	**10.0%**
Gross Energy Uncertainty	**16.0%**
Net Energy Uncertainty	**20.0%**

Note 1: Wind Resource based on 200 m Wind Navigator data

Note 2: Losses based on experience in the region

DEEPWATER WIND HOLDINGS, LLC AND SUBSIDIARY

(Formerly Winergy Power Holdings, LLC and Subsidiary)

(a development stage company)

CONSOLIDATED FINANCIAL STATEMENTS AND INDEPENDENT AUDITOR'S REPORT

DECEMBER 31, 2008 AND 2007

CONTENTS

DELLE FAVE, TARASCO & CO.
CERTIFIED PUBLIC ACCOUNTANTS, LLP

1111 ROUTE 110 SUITE 220 E. FARMINGDALE, N.Y. 11735
(631) 420-0440 • FAX (631) 420-0352
dtcpallp@aol.com

Independent Auditor's Report

To the Board of Managers
Deepwater Wind Holdings, LLC
Hoboken, New Jersey

We have audited the accompanying Consolidated Balance Sheets of Deepwater Wind Holdings, LLC and Subsidiary (formerly Winergy Power Holdings, LLC and Subsidiary) (the "Company") (a development stage company) as of December 31, 2008 and 2007 and the related Consolidated Statements of Operations and Deficit accumulated during the development stage, Members' Equity and Cash Flows for the year ended December 31, 2008 and for the period September 5, 2007 (inception) to December 31, 2007. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2008 and 2007 and the consolidated results of operations and deficit accumulated during the development stage, members' equity and cash flows for the year ended December 31, 2008 and for the period September 5, 2007 (inception) to December 31, 2007 in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 3 to the financial statements, the Company is in the development stage and has suffered recurring loses from operations since inception. The Company is dependent upon investor funding from its funding members to continue operations. Additionally, as disclosed in Note 14, the wind farm industry is subject to numerous regulatory authorities which must approve the various permits required for the Company to begin developing the wind farms. There are no assurances that all the required permits will be obtained. These issues raise substantial doubt about the Company's ability to continue as a going concern. Management's plans regarding these matters are described in Note 3. The financial statements do not include any adjustments that might result from the outcome of these uncertainties.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplementary financial information is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has not been subjected to the auditing procedures applied in the audits of the basic financial statements, and, accordingly, we express no opinion on it. Della Fave, Taraseo + Co., CPA's LLP

East Farmingdale, New York
March 10, 2009

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Consolidated Balance Sheets

	December 31, 2008	December 31, 2007
ASSETS		
CURRENT ASSETS		
Cash	$ 1,928,319	$ 1,176,097
Prepaid expenses	187,063	4,933
Due from joint developer	124,809	-
Total Current Assets	2,240,191	1,181,030
PROPERTY AND EQUIPMENT - NET	444,258	116,540
OTHER ASSETS		
Deposit on equipment	-	124,100
Note receivable-related party	398,186	366,805
Site costs	35,957	23,452
Purchased intangibles	675,000	675,000
Security deposits	11,138	49,325
Goodwill	2,350,130	2,350,130
Website	77,503	-
	$ 6,232,363	$ 4,886,382
LIABILITIES AND MEMBERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable	$ 276,319	$ 167,627
Accrued severence costs-related party	325,875	
Accrued expenses-other	185,567	-
Total Current Liabilities	787,761	167,627
COMMITMENTS AND CONTINGENCIES		
MEMBERS' EQUITY	5,444,602	4,718,755
	$ 6,232,363	$ 4,886,382

The accompanying notes are an integral part of these financial statements

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Consolidated Statements of Operations and
Deficit Accumulated During the Development Stage

	Year Ended December 31, 2008	September 5, 2007 (Inception) to December 31, 2007
REVENUE	$ -	$ -
OPERATING EXPENSES	6,928,471	950,842
LOSS FROM DEVELOPMENT STAGE OPERATIONS	(6,928,471)	(950,842)
OTHER INCOME		
Interest	54,359	16,660
NET LOSS	(6,874,112)	(934,182)
DEFICIT ACCUMULATED DURING THE DEVELOMENT STAGE - BEGINNING	(934,182)	-
DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE - ENDING	$ (7,808,294)	$ (934,182)

The accompanying notes are an integral part of these financial statements

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Consolidated Statement of Members' Equity
For The Period From September 5, 2007 (Inception) To December 31, 2008

	Series A Units		Series B Units		Deficit Accumulated During Development Stage	Total Members' Equity
	Units	Amount	Units	Amount		
BALANCE - SEPTEMBER 5, 2007 (INCEPTION)	-	$ -	-	$ -	$ -	$ -
Units issued in 2007 for:						
Cash	5,652,937	5,652,937	-	-		5,652,937
Management	-	-	534,500	-		-
NET LOSS FOR THE PERIOD					(934,182)	(934,182)
BALANCE - DECEMBER 31, 2007	5,652,937	5,652,937	534,500	-	(934,182)	4,718,755
Units issued in 2008 for:						
Cash	9,055,488	9,055,488	-	-		9,055,488
Management	139,140	139,140	-	-		139,140
Severance Settlement	250,000	-	58,333	-		-
Technology Acquisition	610,000	610,000	-	-		610,000
Purchase of units from former member	(2,204,669)	(2,204,669)	-	-		(2,204,669)
NET LOSS FOR THE YEAR					(6,874,112)	(6,874,112)
BALANCE - DECEMBER 31, 2008	13,502,896	$ 13,252,896	592,833	$ -	$ (7,808,294)	$ 5,444,602

The accompanying notes are an integral part of these financial statements

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Consolidated Statements Of Cash Flows

	Year Ended December 31, 2008	September 5, 2007 (inception) to December 31, 2007
OPERATING ACTIVITY		
Net loss	$ (6,874,112)	$ (934,182)
Adjustments to reconcile net loss to net cash used by operating activities:		
Depreciation	52,319	12,059
Expenses paid for by issuance of membership units	749,140	-
Change in:		
Prepaid expenses and receivables	(306,939)	(4,933)
Accounts payable and accrued expenses	620,134	167,627
NET CASH USED IN OPERATING ACTIVITIES	(5,759,458)	(759,429)
INVESTING ACTIVITIES		
Acquisition of goodwill	-	(2,350,130)
Acquisition of intangibles	-	(675,000)
Acquisition of property and equipment	(380,037)	(128,599)
Change in deposits on equipment	124,100	(124,100)
Change in security deposits	38,187	(49,325)
Increase in site costs	(12,505)	(23,452)
Website development	(77,503)	-
NET CASH USED BY INVESTING ACTIVITIES	(307,758)	(3,350,606)
FINANCING ACTIVITIES		
Proceeds from issuance of membership units	9,055,488	5,652,937
Purchase of membership units from former member	(2,204,669)	-
Increase in note receivable - related party	(31,381)	(366,805)
NET CASH PROVIDED BY FINANCING ACTIVITIES	6,819,438	5,286,132
NET INCREASE IN CASH	752,222	1,176,097
Cash - Beginning	1,176,097	-
Cash - Ending	$ 1,928,319	$ 1,176,097

The accompanying notes are an integral part of these financial statements

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Consolidated Statements Of Cash Flows
Continued

	Year Ended December 31, 2008		September 5, 2007 (inception) to December 31, 2007	
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:				
Interest paid	$	1,209	$	-
NON CASH TRANSACTIONS:				
Fair value of membership units issued for:				
Management services	$	139,140	$	-
Research and design technology		610,000		-
	$	749,140	$	-

The accompanying notes are an integral part of these financial statements

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Notes To Consolidated Financial Statements
December 31, 2008 and 2007

NOTE 1 ORGANIZATION AND DESCRIPTION OF BUSINESS

Deepwater Wind Holdings, LLC (individually and collectively the "Company") was formerly known as Winergy Power Holdings, LLC. The company changed its name in July of 2008.

The company was formed in the State of Delaware on September 5, 2007 for the purpose of pursuing its interest in the development of deep water wind farms.

On September 17, 2007 the Company acquired, through a plan of merger, Winergy Power, LLC ("Winergy") and it's wholly owned subsidiary, Atlantis Power, LLC ("Atlantis"). Winergy was formed in the State of Delaware on August 5, 2005. Atlantis was formed in the State of Delaware on January 12, 2006.

Winergy's principal line of business was developing offshore deep water wind farms along the eastern coast of the United States. Since inception, Winergy had been exploring potential wind farm sites and seeking the required regulatory approvals and permits for the selected sites. Additionally, Winergy had been researching the preferred technology for use in the development of the wind farms. Atlantis's principal line of business was research and design activities involving the design, engineering and prototyping of a self installing offshore platform to be used as a base for the wind generating equipment.

During 2008 the Company's management continued towards their objective of developing and operating deep water wind farms in the coastal waters of the eastern United States. The Company is continuing to pursue the necessary technology and regulatory approvals through internal operations and outside acquisitions. During 2008, the company entered into a memorandum of understanding with PSEG Global, LLC for the purpose of submitting a joint proposal to the New Jersey Board of Public Utilities to develop "offshore wind renewable energy facilities supplying electric to the distribution system serving New Jersey." The joint venture won the NJBPU solicitation and was awarded rights to a $4,000,000 grant for development work to be completed in 2009 and

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Notes To Consolidated Financial Statements
December 31, 2008 and 2007

2010. The Company anticipates entering into a formal LLC agreement in 2009. Additionally, in 2008 the State of Rhode Island announced that the Company had been selected as its preferred developer for a commercial scale wind farm off its coastal waters. Subsequent to statement date the Company entered into a formal development agreement with the State of Rhode Island.

Ultimately, the Company's planned principal business activity will be the development and operation of wind farms which will produce revenue from the sale of generated electricity.

As disclosed in Note 15, subsequent to statement date the Company relocated its main office from Hauppauge, New York to Hoboken, New Jersey.

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation
The consolidated financial statements include the accounts of Deepwater Wind Holdings, LLC and its wholly owned subsidiary, Deepwater Wind, LLC. Atlantis Power, LLC is a wholly owned subsidiary of Deepwater Wind, LLC. All significant inter-company accounts and transactions have been eliminated in the consolidation.

Development Stage Enterprise
Since there are uncertainties regarding the Company's ability to obtain the required permits, successfully design and engineer the offshore platform and begin planned principal revenue generating operations, the Company is considered a "Development Stage Enterprise" under the guidelines of the Statement of Financial Accounting Standards ("SFAS") No. 7. SFAS No. 7 requires certain specialized accounting and reporting guidelines for enterprises identified as being in the development stage.

Start-Up Costs
Operating costs, including all selling, general and administrative expenses during the development stage, are expensed as incurred.

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Notes To Consolidated Financial Statements
December 31, 2008 and 2007

Use of Estimates
The consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America. In preparing the consolidated financial statements, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent liabilities as of the date of the balance sheets and the amounts from operations for the reporting periods. Although these estimates are based on management's knowledge of current events and actions it may undertake in the future, they may ultimately differ from actual results. Significant estimates made by management in preparing the consolidated financial statements include the anticipation of sufficient future revenue to recover the cost of the capitalized purchased intangible assets and goodwill.

Cash and Cash Equivalents
The Company considers all highly liquid investments in debt instruments purchased with original maturities of three months or less to be cash equivalents.

Property and Equipment
Property and equipment is carried at cost less accumulated depreciation. Depreciation is computed based on the estimated useful lives of the assets using the straight-line method. Maintenance and repairs are expensed as incurred. In accordance with Statement of Financial Accounting Standards ("SFAS") No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets", the Company reviews property and equipment for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. An impairment loss would be recognized when estimated future undiscounted cash flows relating to the asset are less than its carrying amount.

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Notes To Consolidated Financial Statements
December 31, 2008 and 2007

Goodwill
Goodwill at December 31, 2008 and 2007 consists of goodwill created in association with the purchase of the membership units of Winergy Power, LLC. The Company accounts for goodwill in accordance with SFAS No. 142, "Goodwill and Other Intangible Assets". SFAS No. 142 addresses the initial recognition and measurement of intangible assets acquired outside a business combination and the recognition and measurement of goodwill and other intangible assets subsequent to acquisition. Under SFAS No. 142, goodwill is not amortized but is subject to annual impairment tests. Goodwill has been assigned to each of the Company's reportable operating segments. The Company will perform annual impairment tests in accordance with SFAS No. 142. The fair value of each reportable operating segment will be compared to its carrying amount on an annual basis to determine if there is potential impairment. If the implied fair value of the reportable operating segment is less than its carrying value, an impairment loss will be recorded to the extent that the fair value of the goodwill within the reportable operating segment is less than the carrying value. The fair value of the goodwill will be determined based upon discounted cash flows, market multiples or appraised values as appropriate.

Intangible Assets
Intangible assets at December 31, 2008 and 2007 consist of permit and design documents, a renewable lease and a patent, all acquired in the Winergy Power, LLC transaction. The Company accounts for intangible assets in accordance with SFAS No.142. Intangible assets with an indefinite life, including the permit and design documents and renewable leases, are not amortized. The useful life of indefinite life intangible assets will be assessed annually to determine whether events and circumstances continue to support an indefinite life. Intangible assets with a finite life, including patents and licenses are amortized over their estimated remaining useful life. Intangible assets with a finite life will be tested for impairment annually, or whenever events or circumstances indicate that the carrying amount may not be recoverable. An impairment loss will be recognized if the carrying amount exceeds the estimated fair value of the asset. The amount of the impairment loss to be recorded would be calculated by the excess of the asset's carrying value over its fair value.

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Notes To Consolidated Financial Statements
December 31, 2008 and 2007

Joint Development Arrangement – Cost Sharing

The Company is a party to a memorandum of understanding which provides for an equal sharing of certain project costs. The Company accounts for shared project costs in accordance with FASB Emerging Issues Task Force Pronouncement ("EITF") 07-01, "Accounting for Collaborative Arrangements." EITF 07-01 requires collaborators to present the results of activities for which they act as principal on a gross basis and report any payment received from (made to) collaborators based on applicable GAAP or other reasonable, rational, consistently applied accounting method. Accordingly, joint project costs are included in the Company's operating expenses at the gross amount incurred and the developer's reimbursed costs are reported as a reduction of operating costs. As of December 31, 2008 there are unreimbursed project costs in the amount of $124,809 receivable from the joint developer.

Research and Development

The Company expenses all research and development costs as incurred. Research and development costs include salaries, prototypes, depreciation of equipment used in research and development, consulting fees and engineering costs.

Website Development Costs

The Company accounts for the costs associated with the design and development of its web site in accordance with AICPA SOP 98-1, "Accounting For The Costs Of Computer Software Developed Or Obtained For Internal Use." Under SOP 98-1 only the costs incurred subsequent to the completion of the conceptual formulation and design and testing of project alternatives qualifies for capitalization. Following this guideline, the Company capitalized $77,503 of website costs for the year ending December 31, 2008.

Deepwater Wind Holdings, LLC and Subsidiary
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(a development stage company)
Notes To Consolidated Financial Statements
December 31, 2008 and 2007

Equity Based Compensation

SFAS 123 (R) requires companies to expense the fair value of equity units issued to employees as incentive compensation over the estimated service period of the reward.

The Company issued series A-2 and series B-1 units as equity based incentive compensation to certain management employees. These units are nonvoting interests in the future profits of the Company and are subject to various restrictions.

Due to the inherent uncertainties in projecting future cash flows and other factors, management has determined the fair value of these securities to be immaterial and accordingly, has not recorded any related compensation expense for the year ended December 31, 2008 and period ended December 31, 2007.

Concentration of Credit Risk

SFAS No. 105, "Disclosure of Information About Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentration of Credit Risk," requires disclosure of any significant off-balance-sheet risk and credit risk concentration. The Company does not have significant off-balance-sheet risk or credit concentration. The Company maintains its cash balances with a major commercial bank. From time to time, the Company has funds on deposit with this bank that exceed federally insured limits. Management does not consider this to be a significant credit risk as this financial institution is considered to be financially stable.

Income Taxes

The Company is treated as a partnership for Federal income tax purposes and does not incur income taxes. Instead, its earnings and losses are included in the returns of the members and taxed depending on each member's tax situation. Accordingly, the financial statements do not reflect a provision for income taxes.

Deepwater Wind Holdings, LLC and Subsidiary
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Notes To Consolidated Financial Statements
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Recent Accounting Pronouncements
FASB 141 (Revised)
In December 2007, the FASB issued Statement No. 141 (Revised) "Business Combinations." This Statement establishes principles and requirements for how the acquirer in a business combination recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, any non-controlling interest in the acquiree, and any goodwill acquired in the business combination or a gain from a bargain purchase. This Statement requires most identifiable assets, liabilities, non-controlling interest and goodwill acquired in a business combination to be recorded at "full fair value." Statement No. 141 (Revised) must be applied prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. Early application is prohibited. Management has determined that the adoption of FASB 141 (R) will not have a significant impact on the Company's financial statements.

SFAS 142-3
In April 2008, FASB issued FSP SFAS 142-3, "Determination of the Useful Life of Intangible Assets." FSP SFAS 142-3 amends the factors that should be considered in developing renewal or extension assumptions used to determine the useful life of a recognized intangible asset under FASB Statement No. 142, "Goodwill and Other Intangible Assets," ("SFAS 142"). The intent of this FSP is to improve the consistency between the useful life of a recognized intangible asset under SFAS 142 and the period of expected cash flows used to measure the fair value of the asset under SFAS 141(R) and other U.S. generally accepted accounting principles. FSP SFAS 142-3 is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years. The requirement for determining useful lives must be applied prospectively to intangible assets acquired after the effective date and the disclosure requirements must be applied prospectively to all intangible assets recognized as of, and subsequent to, the effective date. Early adoption is prohibited. Management has determined that the adoption of SFAS 142-3 will not have a significant impact on the Company's financial statements.

Deepwater Wind Holdings, LLC and Subsidiary
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Notes To Consolidated Financial Statements
December 31, 2008 and 2007

SFAS 157

SFAS 157, "Fair Value Measurements" establishes a single authoritative definition of fair value based upon the assumptions market participants would use when pricing an asset or liability and creates a fair value hierarchy that prioritizes the information used to develop those assumptions. Under the standard, additional disclosures are required, including disclosures of fair value measurements by level within the fair value hierarchy.

The Company adopted SFAS 157 as it relates to both financial and nonfinancial assets and liabilities, including nonfinancial assets and liabilities measured at fair value in a business combination; impaired property, plant and equipment; goodwill; and initial recognition of asset retirement obligations. Adoption of SFAS 157 for existing financial and nonfinancial assets and liabilities did not have a significant impact on the Company's consolidated financial statements.

NOTE 3 GOING CONCERN

The accompanying financial statements have been prepared on a going concern basis which contemplates the realization of assets and liabilities in the ordinary course of business. Operating losses have been incurred since inception resulting in an accumulated deficit of $7,808,294 at December 31, 2008. The continuing losses are due to the Company's continued expenditures for the development of the product that is not currently available for sale which inherently raises substantial doubt regarding the Company's ability to continue as a going concern. Management is working together with experienced consultants, engineers and lawyers to aggressively pursue the technology and regulatory approvals necessary to develop its targeted sites. Additionally, the funding members have indicated their continued commitment to fund the continuing development stage losses until the Company's planned principal activity results in sufficient revenue to fund the Company's operations. However, even if the required funding continues, no assurance can be given as to the Company's ability to obtain the required permits and necessary technology to begin operations.

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Notes To Consolidated Financial Statements
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The financial statements of the Company do not include any adjustments relating to the recoverability and classification of recorded assets, or the amounts and classification of liabilities that might be necessary if the Company is unable to continue as a going concern.

NOTE 4 PROPERTY AND EQUIPMENT

The Company's property and equipment consists of the following:

	Useful Life (in years)	December 31, 2008	2007
Equipment	7	$301,228	$ -
Furniture and Fixtures	7	65,286	28,000
Computers and Software	5	140,609	100,599
Leasehold Improvements	39	1,513	-
		508,636	128,599
Less: Accumulated Depreciation		64,378	12,059
		$444,258	$116,540

Property and equipment are stated at cost less accumulated depreciation. Depreciation is calculated on the straight line basis over the estimated useful lives of the assets. Depreciation expense was $52,319 and $12,059 for the year ended December 31, 2008 and period ended December 31, 2007, respectively.

There were no impairment charges to property and equipment for the year ended December 31, 2008 and the period ended December 31, 2007.

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Notes To Consolidated Financial Statements
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NOTE 5 DEVELOPMENT STAGE FUNDING

The Company is a development stage enterprise which has not commenced planned principal revenue generating operations.

Accordingly, the Company's ability to continue operations is dependent on the continued funding from its principal investors (the "Funding Members").

Although the Funding Members have indicated their continued commitment to the funding of the Company, the Member's agreement provides that all or some of the Funding Members may terminate their funding of the Company at their discretion.

NOTE 6 BUSINESS COMBINATION AND CAPITALIZATION

On September 17, 2007 the Company completed the acquisition of Winergy Power, LLC through a plan of merger. The transaction was accounted for as a purchase. The purchase price for the net assets acquired was $2,382,227.

Under FASB Statement No. 141, "Business Combinations" (of whatever legal form) involving unrelated entities are required to be accounted for using the purchase method of accounting. Purchase accounting is an application of the cost principal whereby assets obtained are accounted for at a price that was paid (which, in an arm's length transaction, represents fair value). A purchase transaction gives rise to a new basis of accounting for the purchased assets and liabilities.

Deepwater Wind Holdings, LLC and Subsidiary
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Under the agreement and plan of merger the Company was initially capitalized as follows:

Contributions by series A unit holders of Winergy Power Holdings, LLC	$ 5,652,937
Purchase price for net assets acquired paid to former unit holders of Winergy Power, LLC and Atlantis Power, LLC	2,382,227
Cash available for operations	$ 3,270,710

The following is a summary of the estimated fair value of the assets acquired and the liabilities assumed at the date of acquisition:

At September 17, 2007

Current assets	$ 36,278
Site costs	23,452
Security deposits	38,187
Property and equipment	50,000
Intangible assets	300,000
Investment in Atlantis Power	533,067
Goodwill	2,223,632
Total assets acquired	3,204,616
Current liabilities	662,389
Notes payable	160,000
Total liabilities assumed	822,389
Net assets acquired	$2,382,227

Specific details related to the intangible assets and goodwill acquired are disclosed in Notes 10 and 11, respectively.

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Notes To Consolidated Financial Statements
December 31, 2008 and 2007

NOTE 7 BUSINESS ACQUISITION AND ADMISSION OF NEW SERIES A-1 UNIT HOLDER

On May 2, 2008 the Company acquired the "offshore" assets of First Wind Holdings, LLC (First Wind) in a transaction whereby a 100% interest in First Wind's subsidiary, Deepwater Wind, LLC, was acquired in exchange for 610,000 series A-1 units of the Company. At the agreed value of $1.00 per unit, the units issued represented payment to First Wind in the amount of $610,000 for the fair value of its assets. The assets acquired consisted principally of research and design technology (i.e., consulting agreements, technical service agreements and legal work in process). The Company has elected to expense the acquired research and design technology and has, accordingly, included the $610,000 in its operating expenses for year ending December 31, 2008.

As more fully disclosed in Note 8, contemporaneous with the asset acquisition agreement, First Wind agreed to invest additional funds in the Company in proportion to its ownership percentage in exchange for additional series A-1 units.

NOTE 8 CAPITAL TRANSACTIONS

On May 2, 2008, contemporaneous with the acquisition agreement disclosed in Note 7, the Company entered into a unit subscription agreement with First Wind as a new funding member. On the same date, the Company entered into an agreement to purchase the entire interest of an existing series A-1 unit holder.

The proceeds from the series A-1 units issued to First Wind was $2,165,889. The cost of the series A-1 units purchased from the departing unit holder was $2,204,669.

On September 15, 2008 the Company received an additional $3,860,860 from its funding members in exchange for the issuance of additional series A-1 units at $1.00 per unit.

As disclosed in Note 15, subsequent to statement date additional contributions were received from the funding members.

Deepwater Wind Holdings, LLC and Subsidiary
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(a development stage company)
Notes To Consolidated Financial Statements
December 31, 2008 and 2007

NOTE 9 RELATED PARTY TRANSACTIONS

The Company has a note receivable from Mr. Dennis Quaranta, the Company's former President and Chief Executive Officer. The note balance, including interest, at December 31, 2008 and 2007, was $398,186 and $366,805 respectively.

Mr. Quaranta is also a series B unit holder in the Company.

The note receivable bears interest at a rate of 8.0% per annum and is due on September 17, 2017. The note is with recourse only to Mr. Quaranta's series B units.

As more fully disclosed in Note 15, subsequent to statement date, the Company entered in a severance and release agreement with Mr. Quaranta.

On December 3, 2008 the Company entered into a severance and release agreement with Christopher Brown, the Company's Chief Executive Officer. The agreement obligates the Company to pay a total severance amount to Mr. Brown in the amount of $350,000 (plus fringe costs) payable in bi-weekly payments over a one year period. Additionally, the agreement granted Mr. Brown full vesting in 250,000 series A-2 units and 58,333 series B-2 units. Mr. Brown agreed to forfeit 500,000 unvested series A-2 units and 116,667 unvested series B-2 units.

Management has determined that the fair value of the vested units issued to Mr. Brown is immaterial and is therefore not included in the Company's operating expenses for year ending December 31, 2008.

As of statement date, $325,875 was the balance payable on the severance agreement and is accordingly, reported as accrued severance costs as of December 31, 2008.

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NOTE 10 PURCHASED INTANGIBLES

Purchased intangible assets at December 31, 2008 and 2007 consist of the following intangible assets identified in the Company's September 17, 2007 acquisition of the membership units of Winergy Power, LLC:

Winergy Power, LLC	
Permit documents	$ 250,000
Site lease	50,000
	300,000
Atlantis Power, LLC	
Design and documents	350,000
Patents	25,000
	375,000
Consolidated balance	$ 675,000

There were no impairment charges to the purchased intangibles for the year ended December 31, 2008 and period ended December 31, 2007.

Additionally, the purchased intangibles were considered to have indefinite lives and accordingly were not subject to amortization.

NOTE 11 GOODWILL

At December 31, 2008 and 2007 goodwill in the amount of $2,350,130 consists of the amount paid in excess of the fair value of the net identifiable assets (identifiable assets less liabilities) recognized upon purchase of the membership units of Winergy Power, LLC in the September 17, 2007 acquisition transaction.

Goodwill relates primarily to progress made in the permitting process for potential wind farm sites and to advances on the technology segment related to the design and development of offshore platforms

There were no impairment charges to goodwill for the year ended December 31, 2008 and for the period ended December 31, 2007.

Deepwater Wind Holdings, LLC and Subsidiary
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NOTE 12 MEMBERSHIP UNITS AUTHORIZED, ISSUED AND OUTSTANDING

Membership units authorized, issued and outstanding are as follows:

	December 31, 2008	December 31, 2007
Series A		
Authorized series A-1 units	404,250,000	400,000,000
Issued and outstanding series A-1 units	13,002,896	5,652,937
Authorized-series A-2 units	750,000	-
Issued and outstanding-series A-2 units	250,000	-
Series B		
Authorized series B units	1,000,000	1,000,000
Issued and outstanding series B units	592,833	534,500

Series A-1 units are intended to be issued to funding partners.

Series A-2 units are "preferred" profit interest units issued to management and vest pursuant to a time schedule.

Series B units are "profit interest" and are intended to be issued to management and vest pursuant to a time schedule.

Deepwater Wind Holdings, LLC and Subsidiary
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NOTE 13 OBLIGATIONS UNDER OPERATING LEASES

The Company has non cancellable operating lease commitments at December 31, 2008 as follows:

2009	$221,711
2010	94,291
Thereafter	-
	$316,002

Under the terms of certain office space leases, the Company is responsible for additional real estate taxes over a defined base year and certain other additional expense escalation charges.

As more fully disclosed in Note 15, the obligations under operating leases include certain leases entered into subsequent to statement date.

NOTE 14 COMMITMENTS AND CONTINGENCIES

Regulatory Matters
The wind farm industry is subject to numerous Federal, State and Local regulatory authorities. Any change in those regulations or enforcement of those regulations could impact the Company's ability to achieve its planned principal revenue generating activity.

Contracts and Purchase Orders
The Company, in the normal course of its business, retains various engineers and consultants to render services. As of December 31, 2008 the Company had contractual commitments for approximately $650,000 for these services.

Deepwater Wind Holdings, LLC and Subsidiary
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(a development stage company)
Notes To Consolidated Financial Statements
December 31, 2008 and 2007

Technology and License Agreements
In the event that the Company elects to utilize certain patents and technology, the Company would be obligated for the payment of royalties and other substantial fees. As of statement date, management has not committed to the use of any patents or technology which would require future payments under existing agreements.

Joint Development Agreements
The Company is a party to joint development arrangements in which the Company has agreed to significant financial and other commitments

NOTE 15 SUBSEQUENT EVENTS

Relocation of Main Office
Subsequent to statement date, the Company moved its main office from Hauppauge, New York to Hoboken, New Jersey.

Severance Agreement
On February 19, 2009 the Company entered into a severance and release agreement effective January 31, 2009 (termination date) with Mr. Dennis Quaranta, its former Chief Executive Officer, then employed as Director of Development of Plum Island. The agreement obligates the Company to make monthly payments to the former executive in the amount of $4,714 beginning in February 2009 and ending January 2010 (total payments of $56,565) plus fringe costs. Pursuant to the agreement, at termination date it was agreed that Mr. Quaranta would retain 161,339 series B units and would forfeit 58,661 of unvested series B units.

Obligations Under Operating Leases
Subsequent to statement date, the Company entered into additional non-cancellable operating lease agreements as follows:

2009	$ 62,000
2010	40,000
	$102,000

**Deepwater Wind Holdings, LLC and Subsidiary
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Notes To Consolidated Financial Statements
December 31, 2008 and 2007**

These additional lease commitments are included in the Company's obligations under operating leases as disclosed in Note 13.

Development Agreement
Subsequent to statement date, the Company entered into a joint development agreement with the State of Rhode Island. The agreement commits the Company to numerous obligations including an obligation to the State for certain future expenditures in connection with the project up to a maximum of $3,200,000.

Under the terms of the agreement the Company is required to deposit $3,200,000 in an escrow account from which the reimbursable expenses will be disbursed.

Capital Contribution
On January 29, 2009 the Company received $4,420,000 from its funding members in exchange for additional series A-1 units.

SUPPLEMENTARY INFORMATION

Deepwater Wind Holdings, LLC and Subsidiary
(Formerly Winergy Power Holdings, LLC and Subsidiary)
(a development stage company)
Consolidated Statements of Operating Expenses

	Year Ended December 31, 2008	September 5, 2007 (inception) to December 31, 2007
Salaries - Officers	$ 2,085,576	$ 219,754
Salaries - Other	271,254	23,500
Payroll taxes and benefits	245,122	27,886
Professional fees	977,599	258,999
Marketing and public relations	437,943	28,750
Maps and charts	26,668	840
Seminars and publications	24,135	11,482
Rent and repairs expense	173,574	35,875
Travel and business meals	207,143	28,479
Telephone and internet	173,892	17,875
Office expense	95,538	13,789
Board member fees	9,841	-
Engineering and environmental consulting fees	1,694,580	256,230
Executive search fee	42,500	-
Fees and licenses	1,608	2,250
Other research and development technology	610,000	-
Depreciation	52,319	12,059
Interest expense	1,209	-
Insurance	22,417	3,704
Rental commission	-	9,370
Reimbursed costs from joint developer	(224,447)	-
	$ 6,928,471	$ 950,842

The accompanying notes are an integral part of these financial statements

DEEPWATERWIND
RHODE ISLAND

August 27, 2009

ISO New England
Attn: Cheryl A. Ruell
1 Sullivan Road
Holyoke, MA 01040-2841

RE: Large Generator Interconnection Request for Block Island Wind Farm

Dear Ms. Ruell,

In accordance with the revised *Interconnection Request for A Large Generating Facility* attached hereto, Deepwater Wind Rhode Island, LLC ("**Deepwater**") hereby requests a Maximum Physical Export Capability of 28.8 MW for its development project known as the Block Island Wind Farm (the "**Project**"). Deepwater further requests that ISO-NE promptly commence a Feasibility Study for this Project. This revision to the interconnection request for the Project submitted by Deepwater on August 20, 2009 identifies the Project as a Network Resource, rather than a Capacity Network Resource. Please apply the $50,000 deposit included with the August 20, 2009 interconnection request to this request.

As I mentioned previously, Deepwater was recently selected by the State of Rhode Island to develop this Project, and other offshore wind projects[1]. This Project, as currently planned, is an offshore wind farm which will be located approximately 2.75 miles off the south-east corner of Block Island, Rhode Island and will have a maximum nameplate capacity of 28.8 MW. Deepwater currently anticipates building the Project using eight offshore wind turbines, each with a nameplate capacity of 3.6 MW. Deepwater is currently evaluating the feasibility of using Siemens wind turbines. For your reference, I have attached hereto two ZIP files summarizing the proper approach to modeling the grid integration of these turbines. I have also attached a document describing the technical specifications of the turbines.

As further detailed by the attached One-Line and General Arrangement drawings, Deepwater anticipates that the eight wind turbine generators will be connected to a new substation constructed on Block Island via a 35 kV 750 kcmil submarine cable (which will operate at 33 kV). From this new substation, power will flow both (i) directly to Block Island Power Company ("**BIPCO**") and (ii) to Narragansett Electric Company ("**National Grid**") via a new 69 kV 300 kcmil submarine cable, which will make landfall near Narragansett

[1] In January, 2009, Deepwater executed a Joint Development Agreement with the State of Rhode Island for the purpose of developing this Project in State waters and another, larger project in Federal waters. Deepwater has previously requested and is currently pursuing a separate 347 MW interconnection at the West Kingston substation (ISO-NE Q#263) for the larger project.

Beach, RI where it will intercept feeder 3302 between the Wakefield and Bonnet substations. For your reference, I have also included a document summarizing the Project's Technical Data.

Because the Project will supply power to BIPCO, which is not currently a member of ISO-NE, as well as to National Grid, I have attached for your reference a summary of BIPCO's monthly load. The power supplied to the New England Control Area will be net of BIPCO's load.

For your reference, I have attached a letter from the Rhode Island Coastal Resource Management Council (CRMC) which has the authority to lease submerged state-owned lands within Rhode Island coastal waters for the purpose of renewable energy development. Additionally, I have attached a letter from the US Army Corps of Engineers confirming the Project's current permitting status. However, because we do not yet current have site control, I am also submitting an additional deposit of $10,000.

Thank you in advance for your cooperation and support. Please do not hesitate in calling me at (201) 450-7761.

Sincerely,

Clint Plummer
Vice President, Development

APPENDIX 1 TO LGIP
INTERCONNECTION REQUEST FOR A LARGE GENERATING FACILITY

The undersigned Interconnection Customer submits this request to interconnect its Large Generating Facility to the Administered Transmission System under Schedule 22 - Large Generator Interconnection Procedures ("LGIP") of the ISO New England Inc. Open Access Transmission Tariff (the "Tariff"). Capitalized terms have the meanings specified in the Tariff.

PROJECT INFORMATION

Proposed Project Name: __Block Island Wind Farm____________________________

1. This Interconnection Request is for (check one):

____X____ **A proposed new Large Generating Facility**
__________ **An increase in the generating capacity or a modification that has the potential to be a Material Modification of an existing Generating Facility**
__________ **Commencement of participation in the wholesale markets by an existing Generating Facility**
__________ **A change from Network Resource Interconnection Service to Capacity Network Resource Interconnection Service**

2. The types of Interconnection Service requested:

____X____ **Network Resource Interconnection Service (energy capability only)**

__________ **Capacity Network Resource Interconnection Service (energy capability and capacity capability)**

If Capacity Network Resource Interconnection Service, does Interconnection Customer request Long Lead Facility treatment? Check: ____Yes or _____ No

If yes, provide, together with this Interconnection Request, the Long Lead Facility deposit and other required information as specified in Section 3.2.3 of the LGIP, including (if the Large Generating Facility will be less than 100 MW) a justification for Long Lead Facility treatment.

3. This Interconnection Customer requests (check one, selection is not required as part of the initial Interconnection Request):

_____X____ **A Feasibility Study to be completed as a separate and distinct study**
__________ **A System Impact Study with the Feasibility Study to be performed as the first step of the study (The Interconnection Customer shall select either option and may revise any earlier selection up to within five (5) Business Days following the Scoping Meeting.)**

4. The Interconnection Customer shall provide the following information:

Address or Location of the Facility (including Town/City, County and State):

_Off-Shore, approximately 3 miles southeast of Block Island, Rhode Island___________

____

____

Approximate location of the proposed Point of Interconnection (information is not required as part of the initial Interconnection Request):

National Grid's Feeder 3302 between the Wakefield and Bonnet substations near Narragansett, RI __

Type of Generating Facility to be Constructed ____Wind Farm____

Generating Facility Fuel Type: ___Wind____

Generating Facility Capacity (MW):

	Maximum Net MW Electrical Output	Maximum Gross MW Electrical Output
At or above 90 degrees F	**28**	**28.8**
At or above 50 degrees F	**28**	**28.8**
At or above 20 degrees F	**28**	**28.8**
At or above 0 degrees F	**28**	**28.8**

General description of the equipment configuration (# of units and GSUs):

8 offshore Siemens SWT-3.6-107 wind turbines with individual 4MVA 33 kV-690V transformers feeding a single 33 MVA plant step-up transformer 33 kV-34.5 kV. This will then be connected to the Block Island Power Company's distribution system via a 34.5 kV- 2.4 kV transformer, as well as to National Grid's 34.5 kV transmission system via a new 69 kV submarine cable (see attachments for more details)

Projected Commercial Operations Date:__December, 2011______________________________________

Projected Initial Synchronization Date:__September, 2011_____________________________________

Evidence of Site Control (check one):

________ **If for Capacity Network Resource Interconnection Service, Site Control is provided herewith, as required.**

____X___ **If for Network Resource Interconnection Service: (Check one)**

____ **Is provided herewith**

_X_ **In lieu of evidence of Site Control, a $10,000 deposit is provided herewith (refundable within the cure period as described in Section 3.3.3 of the LGIP).**

The technical data specified within the applicable attachment to this form (check one):

Attached **Is included with the submittal of this Interconnection Request form**

_________ **Will be provided on or before the execution and return of the Feasibility Study Agreement (Attachment B) or the System Impact Study Agreement (Attachment A), as applicable**

The ISO will post the Project Information on the ISO web site under "New Interconnections" and OASIS.

CUSTOMER INFORMATION

Company Name: ____**Deepwater Wind Rhode Island, LLC**________________________________
(Interconnection Customer)

Company Address: **PO Box No.:** ____

Street Address: _____**36-42 Newark Avenue**__________________________

City, State ZIP: __**Hoboken, NJ 07030**______________________________

Company Representative: **Name:** __**Clint Plummer**__________________________________

Title: __**Vice President - Development**______________________

Company Representative's Company and Address (if different from above):

Company Name: ____

PO Box No.: ____

Street Address: ____

City, State ZIP: ____

Phone: ___**201-850-1715**________**FAX:** __**201-603-1173**_________ **email:** __**cplummer@dwwind.com**___

This Interconnection Request is submitted by:

Authorized Signature:  ________________________________

Name (type or print): __**Clint Plummer**________________________________

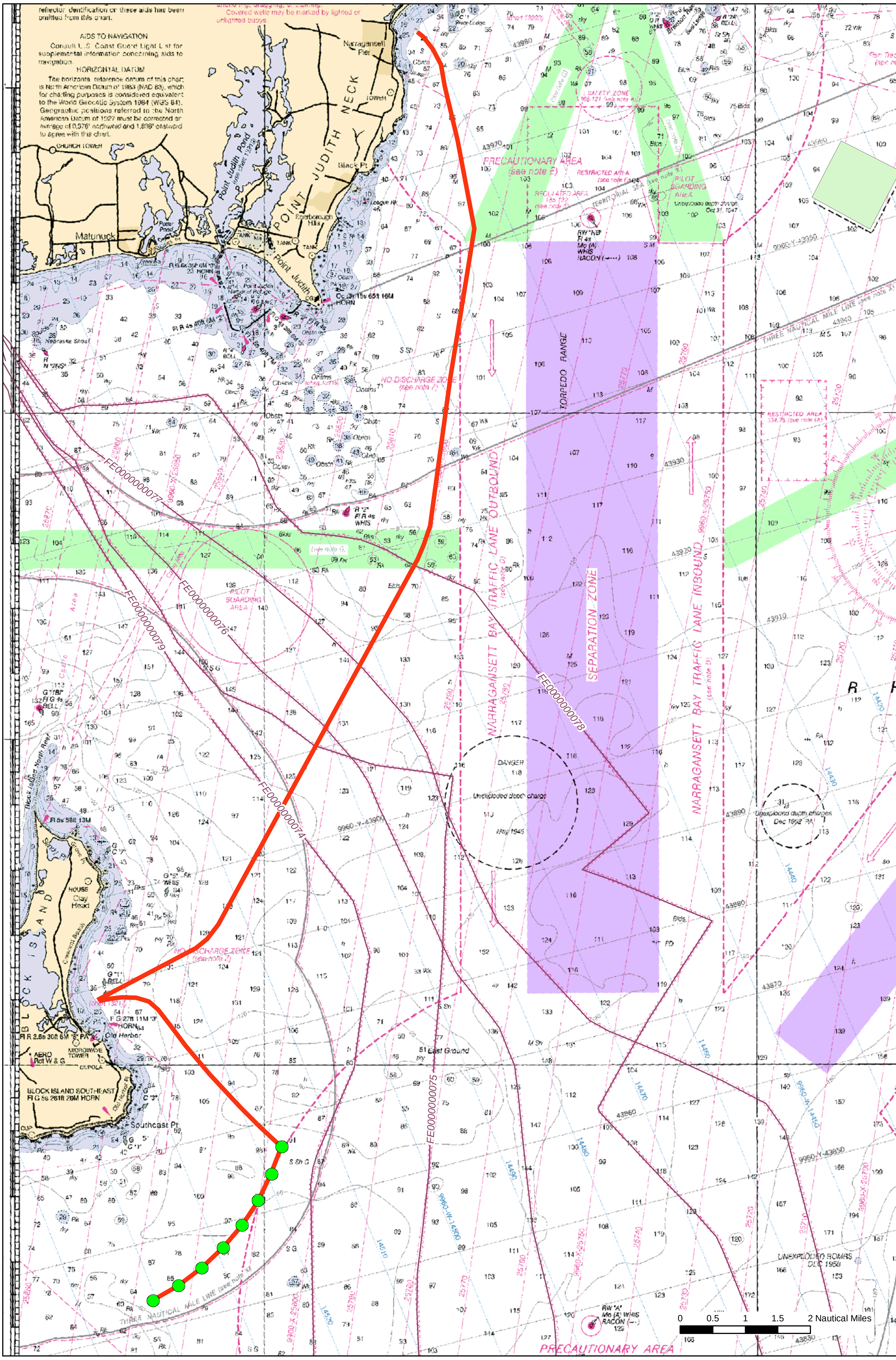
Title: __**Vice President - Development** ______________________________

Date: ___**August 27, 2009**__________________________________

In order for an Interconnection Request to be considered a valid request, it must:

(a) Be accompanied by a deposit of $50,000.00, which shall be refundable in accordance with Section 3.1 of the LGIP;
(b) (b) For Capacity Network Resource Interconnection Service, include documentation reasonably demonstrating Site Control If for Network Resource Interconnection Service, demonstrate Site Control or post an additional deposit of $10,000.00. If the Interconnection Customer with an Interconnection Request for Network Resource Interconnection Service demonstrates Site Control within the cure period specified in Section 3.3.1 of the LGIP, the additional deposit of $10,000.00 shall be refundable;
(c) Include a detailed map (2 copies), such as a map of the quality produced by the U.S. Geological Survey, which clearly indicates the site of the new facility and pertinent surrounding structures; and
(d) Include all information required on the Interconnection Request form; and
(e) Include the deposit and all information required for Long Lead Facility treatment, if such treatment is requested in accordance with Section 3.2.3 of the LGIP.

Ecology & Environment, Inc. GIS Department Project #
L:\Buffalo\Winergy_RI\Maps\MXDs\Shortest_Cable_Turbine_to_BI_to_NB_080409.mxd 08/07/2009



Turbine Locations and Preliminary Cable Route Deepwater Block Island

Legend
- Turbine
- Preliminary Route
- Existing Submarine Cables

DEEPWATERWIND RHODE ISLAND

Source: ESRI, 2008; Rhode Island GIS, 2008, USGS, 2005

State of Rhode Island and Providence Plantations

COASTAL RESOURCES MANAGEMENT COUNCIL
Oliver Stedman Government Center
4808 Tower Hill Road
Wakefield, RI 02879
(401) 783-3370

Michael M. Tikoian
Chairman

Grover J. Fugate
Executive Director

July 17, 2009

Mr. Clint Plummer
Deepwater Wind RI
56 Exchange Terrace, Suite 101
Providence, RI 02903

Dear Mr. Plummer:

At your request, for the purpose of your pending Interconnection Request, I am writing to confirm that the Rhode Island Coastal Resources Management Council (CRMC) is working with the ACOE on pre-application consultations with Deepwater Wind Rhode Island, LLC (Deepwater) for the proposed Block Island Wind Farm project. CRMC is responsible for the State of Rhode Island's CZMA and also for the Federal Consistency process and has the authority to lease offshore submerged lands for the purpose of offshore renewable energy development. If and when Deepwater submits an application, and CRMC determines such application complete and sufficient, CRMC will commence the public review process necessary for permitting and if a permit is issued, leasing of the site. Please do not hesitate in calling me at (401) 783-3370 with any questions you may have.

Sincerely,

Grover J. Fugate, Executive Director
Coastal Resources Management Council

/lam

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

REPLY TO ATTENTION OF

July 1, 2009

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

Clint Plummer
Deepwater Wind Rhode Island, LLC
36-42 Newark Street, Suite 402
Hoboken, New Jersey 07030

Dear Mr. Plummer:

At your request for the purpose of your pending Interconnection Request, I am writing to confirm that the United States Army Corps of Engineers (USACE) has begun pre-application consultations with Deepwater Wind Rhode Island, LLC (Deepwater) for the proposed Block Island Wind Farm project. USACE will be the lead federal agency for the purposes of NEPA and is thus coordinating consultations with other federal agencies. Please do not hesitate in calling me at (978) 318-8131 with any questions you may have.

Sincerely,

Michael J. Elliott
Senior Project Manager
Regulatory Division

Deepwater Wind

Deepwater Block Island Wind Farm

Technical Data

August 2009

Careba Mott MacDonald
400 Blue Hill Drive
Suite 100
North Lobby
Westwood MA
02090
USA

Deepwater Block Island Wind Farm

Technical Data

Issue and Revision Record

Rev	Date	Originator	Checker	Approver	Description
1A	13 March 2009	A.J. Hart	N/A	B. Knodel	First Draft
1B	11 June 2009	B. Knodel	N/A	B. Knodel	For Interconnection App
1C	19 August 2009	K. Sokolowski	N/A	B. Knodel	Revised for 69kV

List of Contents

Page

Chapters and Appendices

List of Tables

1 Introduction

The windfarm system technical data included in this document has been compiled in accordance to ISO-NE list of requirements.

The data will be used for power system studies.

2 Study Data

This section details the data to be used in the modelling of the Deepwater Block Island offshore wind farm developed by Deepwater Wind.

Data has been collected to produce models for the following items:

- Wind turbine generators;
- WTG step-up transformers (33/.69kV);
- 35kV inter array collection system: submarine cables
- Wind park Onshore transformers (34.5/33kV);
- BIPCO Onshore transformers (34.5/2.4kV);
- Onshore auto transformers (69/34.5kV);
- 69kV submarine cable
- Onshore transformers (69/34.5kV);

The Single Line Diagram for the proposed windfarm is shown in Appendix A.

2.1 Location of the Proposed Facility

The proposed design includes a three phase development with a total of a 29MW windfarm output connecting into the 34.5kV Block Island Power Company (BIPCO) substation on Block Island. Submarine and onshore underground cable connection to the utility is expected to be by 69kV XLPE to the National Grid distribution line 3302 at 34.5kV. The interconnection will be accomplished by outdoor metal clad switchgear. The wind turbine generators are located approximately 3 miles off the shore of the Block Island coast.

2.2 Summer and Winter Output of the Proposed Facility

The windfarm total output will be 28.8MW.

2.3 Description of the Proposed Facilities

The windfarm system to be used in the modelling stage has been based on the single line diagram shown in Appendix A.

8 x 3.6 MW wind turbine generators totalling 28.8MW have been proposed. The construction of the wind farm will be completed in one phase.

2.4 Wind Turbine Generator (WTG)

The wind turbine generator (WTG) data has been based on the Siemens 3.6 MW offshore units.

Table 2.1: WTG Data

MW Size (each turbine)	3.6
MVA Base (each turbine)	4.0
Number of Turbines	8
Type of Turbines (Manufacture and Model Type)	Siemens SWT-3.6-107
Terminal Voltage (kV)	0.69KV
Positive Sequence Resistance, R1 (on MVA Base)	0.0000
Saturated Sub-transient Reactance, X"d(v) (on MVA Base)	0.6025
Control Mode (Power Factor Control/ Voltage Control)	Voltage
If in PF Control Model, Power Factor Range at the Generator Terminal	N/A
Size of Additional Capacitor If Any	N/A
Location of Additional Capacitor If Any	N/A
Type of Additional Capacitor If Any (regular/ switching shunts)	N/A
Steps of Switching Shunts	N/A
Size of Dynamic Var If Any	N/A
Location of Dynamic Var If Any	N/A

2.5 WTG Step-Up Transformer

The WTG transformer parameters are described in Table 2.2.

Table 2.2: WTG Step-Up Transformer Data

Generator Step-up Transformer MVA Base:	4
Generator Step-up Transformer Impedance (R+jX, or %, on transformer MVA Base):	0.0084+j0.0600
Generator Step-up Transformer Reactance-to-Resistance Ration (X/R):	7.14
Generator Step-up Transformer Rating (MVA):	4
Generator Step-up Transformer Low-side Voltage (kV):	0.69
Generator Step-up Transformer High-side Voltage (kV):	33
Generator Step-up Transformer Off-nominal Turns Ratio:	0
Generator Step-up Transformer Number of Taps and Step Size:	-5%, -2.5%, 0, 2.5%, 5%
High Voltage Winding Connection (i.e. wye grounded, delta):	Delta
Low Voltage Winding Connection (i.e. wye grounded, delta):	Wye grounded

2.6 Inter Array Collection System

The inter-turbine connections for the 33kV system are based on the proposed 33 kV single-line diagram (see Appendix A). The turbines are connected in a radial configuration of 8 WTGs. The Feeder will loop from WTG to WTG in a zero-redundancy scheme.

Table 2.3 shows the 35kV cable parameters to be used in the models. This information is based on in-house data.

The 750 kcmil submarine cable rating used was 590A based in the following conditions:

- Maximum ambient temperature in seabed at burial depth: 20ºC
- Maximum burial depth in seabed: 1.0 m
- Thermal resistivity of seabed: 1.0 K.m/W

The real capacity of the cables is highly dependent and sensitive to the submarine burial conditions and seabed characteristics. In order to confirm the real rating, the above values will need to be investigated and defined in further stages.

To calculate an approximate 35kV cable length for the inter-array collection system, the study shall assume total feeder length of 8 miles. This includes the distance from the farthest WTG to the point of interconnection at the BIPCO substation.

Table 2.3: 35 kV Submarine Cable Data

Voltage	KV	33
No Cores	--	3
Conductor Area	kcmil	750
Conductor Metal	--	Cu
Cable OD	in	-
Conductor Temperature	C˚	20
Conductor DC resistance at 20C	mΩ/Mile	75.62
Capacitance Per Core	uF/mile	0.451
Inductance Per Core	mH/mile	0.563
Steady State Rating – Submarine	A	590
	MVA	33.7
Conductor AC Resistance at 20C	mΩ/Mile	75.62
Zero Sequence Resistance (Ro)	mΩ/Mile	75.62
Zero Sequence Reactance (Xo)	Ω/Mile	.212

2.7 Onshore Substation Transformers & Transmission Cable

The project will include four on-shore substation transformers. One transformer will step up the voltage from the WTG Collector from 33KV to 34.5KV, while the second will attach into the existing BIPCO bus, stepping the voltage down from 34.5KV to 2.4KV configured for future up-rating to 4.16KV. A 69/34.5kV auto transformer at Block Island will be use to transmit the power approximately 20 mile to the main land substation where a 69/34.5kV transformer will step-down to the distribution voltage. Data for the onshore transformers has been included in the following tables:

Table 2.4: Three Winding Onshore Transformer Data (34.5KV / 33KV)

Generator Step-up Transformer MVA Base:	20
Generator Step-up Transformer Positive & Zero Impedance (R+jX, or %, on transformer MVA Base):	H-M 8%, H-T 17.3%, M-T 6.4%
Generator Step-up Transformer Reactance-to-Resistance Ratio (X/R):	H-M 24, H-T 24, M-T 24
Generator Step-up Transformer Rating (MVA):	20/26.5/33
Generator Step-up Transformer High-side Voltage (kV):	34.5
Generator Step-up Transformer Low-side Voltage (kV):	33
Generator Step-up Transformer Tertiary Voltage (kV):	4.16
Generator Step-up Transformer Off-nominal Turns Ratio:	0
Generator Step-up Transformer Number of Taps and Step Size:	-5%, -2.5%, 0%, 2.5%, 5%
High Voltage Winding Connection (i.e. wye grounded, delta):	Wye Grounded
Low Voltage Winding Connection (i.e. wye grounded, delta):	Wye Grounded
Tertiary Voltage Winding Connection (i.e wye grounded, delta):	Delta

Table 2.5: Two Winding Onshore Transformer Data (34.5KV / 2.4KV)

Generator Step-up Transformer MVA Base:	4.5
Generator Step-up Transformer Impedance (R+jX, or %, on transformer MVA Base):	5.75%
Generator Step-up Transformer Reactance-to-Resistance Ratio (X/R):	12
Generator Step-up Transformer Rating (MVA):	4.5/6/7.5
Generator Step-up Transformer High-side Voltage (kV):	34.5
Generator Step-up Transformer Low-side Voltage (kV):	2.4
Generator Step-up Transformer Tertiary Voltage (kV):	N/A
Generator Step-up Transformer Off-nominal Turns Ratio:	0
Generator Step-up Transformer Number of Taps and Step Size:	-5%, -2.5%, 0%, 2.5%, 5%
High Voltage Winding Connection (i.e. wye grounded, delta):	Delta
Low Voltage Winding Connection (i.e. wye grounded, delta):	Delta
Tertiary Voltage Winding Connection (i.e wye grounded, delta):	N/A

Table 2.6: Three Winding Onshore Auto Transformer Data (69KV / 34.5KV)

Generator Step-up Transformer MVA Base:	20
Generator Step-up Transformer Positive & Zero Impedance (R+jX, or %, on transformer MVA Base):	H-M 5.75%, H-T 28.3%, M-T 18.4%
Generator Step-up Transformer Reactance-to-Resistance Ratio (X/R):	H-M 24, H-L 24, M-L 24
Generator Step-up Transformer Rating (MVA):	20/26.5/33
Generator Step-up Transformer High-side Voltage (kV):	69
Generator Step-up Transformer Low-side Voltage (kV):	34.5
Generator Step-up Transformer Tertiary Voltage (kV):	-
Generator Step-up Transformer Off-nominal Turns Ratio:	0
Generator Step-up Transformer Number of Taps and Step Size:	-5%, -2.5%, 0%, 2.5%, 5%
High Voltage Winding Connection (i.e. wye grounded, delta):	Wye Grounded
Low Voltage Winding Connection (i.e. wye grounded, delta):	Wye Grounded
Tertiary Voltage Winding Connection (i.e wye grounded, delta):	Delta

Table 2.7: Two Winding Onshore Transformer Data (69KV / 34.5KV)

Generator Step-up Transformer MVA Base:	20
Generator Step-up Transformer Impedance (R+jX, or %, on transformer MVA Base):	5.75%
Generator Step-up Transformer Reactance-to-Resistance Ratio (X/R):	24
Generator Step-up Transformer Rating (MVA):	20/26.5/33
Generator Step-up Transformer High-side Voltage (kV):	69
Generator Step-up Transformer Low-side Voltage (kV):	34.5
Generator Step-up Transformer Tertiary Voltage (kV):	N/A
Generator Step-up Transformer Off-nominal Turns Ratio:	0
Generator Step-up Transformer Number of Taps and Step Size:	-5%, -2.5%, 0%, 2.5%, 5%
High Voltage Winding Connection (i.e. wye grounded, delta):	Wye Grounded
Low Voltage Winding Connection (i.e. wye grounded, delta):	Delta
Tertiary Voltage Winding Connection (i.e wye grounded, delta):	N/A

Table 2.8: 69kV Submarine Cable Data

Voltage	KV	69
No Cores	--	3
Conductor Area	kcmil	300
Conductor Metal	--	Cu
Cable OD	in	4.88
Conductor Temperature	C˚	20
Conductor DC resistance at 20C	Ω/Mile	0.2
Capacitance Per Core	uF/mile	0.274
Inductance Per Core	mH/mile	0.676
Steady State Rating – Submarine	A	375
	MVA	44.8
Conductor AC Resistance at 20C	Ω/Mile	.2
Zero Sequence Resistance (Ro)	Ω/Mile	.2
Zero Sequence Reactance (Xo)	Ω/Mile	.255

2.8 Compensation system

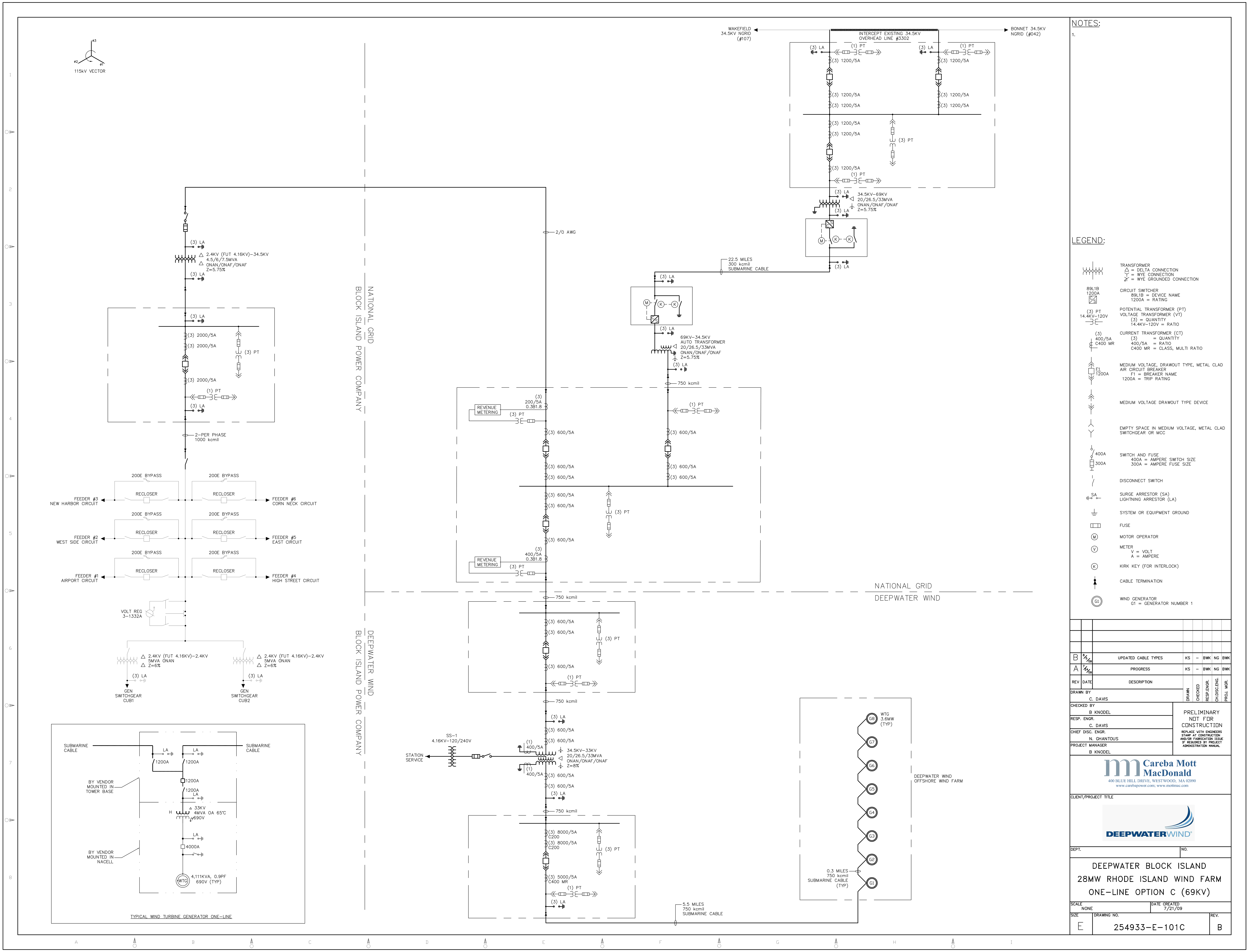
It is assumed that the reactive power requirements in the system can be met by the wind turbine generators.

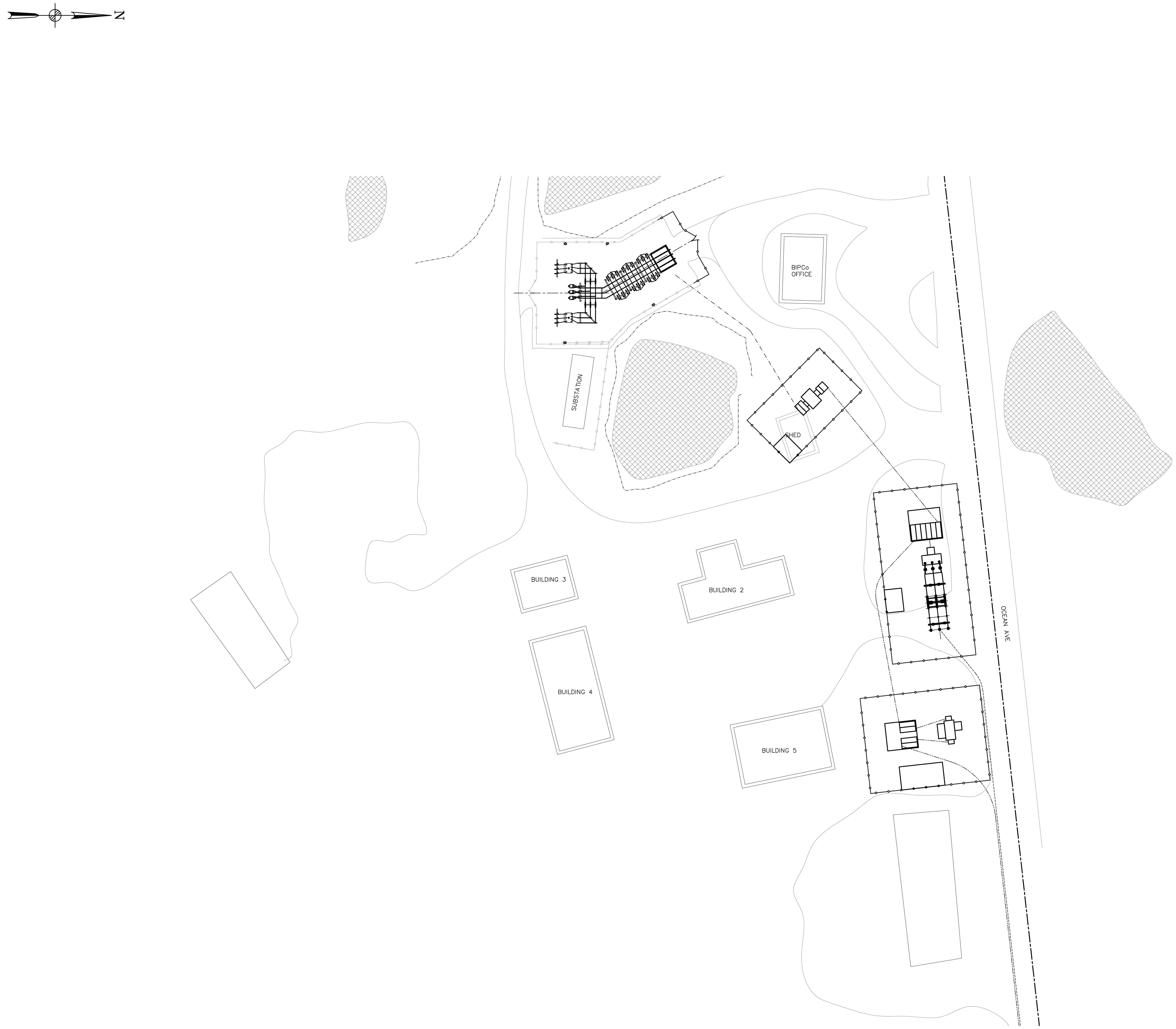
A system study will determine whether extra onshore compensation will be required. This could be achieved through a Static Var Compensator (SVC) or a STATCOM device connected to a tertiary winding of the on-shore transformers in order to achieve continuous reactive control to comply with Grid Code performance requirements.

3 References

[1] Siemens, "S3M603 – V1.2 User Information for PSS/E Simulation model of Siemens Wind Power SWT-3.6.-17 60 Hz Wind Turbine".

Appendix A Single Line Diagram


115kV VECTOR
WAKEFIELD 34.5KV NGRID (#107)
INTERCEPT EXISTING 34.5KV OVERHEAD LINE #3302
BONNET 34.5KV NGRID (#042)
(3) LA
(1) PT
(3) 1200/5A
(3) PT
34.5KV-69KV 20/26.5/33MVA ONAN/ONAF/ONAF Z=5.75%
22.5 MILES 300 kcmil SUBMARINE CABLE
69KV-34.5KV AUTO TRANSFORMER 20/26.5/33MVA ONAN/ONAF/ONAF Z=5.75%
750 kcmil
2/0 AWG
2.4KV (FUT 4.16KV)-34.5KV 4.5/6/7.5MVA ONAN/ONAF/ONAF Z=5.75%
(3) 2000/5A
2-PER PHASE 1000 kcmil
NATIONAL GRID
BLOCK ISLAND POWER COMPANY
REVENUE METERING
(3) 200/5A 0.3B1.8
(3) 600/5A
(3) 400/5A 0.3B1.8
200E BYPASS
RECLOSER
FEEDER #3 NEW HARBOR CIRCUIT
FEEDER #6 CORN NECK CIRCUIT
FEEDER #2 WEST SIDE CIRCUIT
FEEDER #5 EAST CIRCUIT
FEEDER #1 AIRPORT CIRCUIT
FEEDER #4 HIGH STREET CIRCUIT
VOLT REG 3-1332A
2.4KV (FUT 4.16KV)-2.4KV 5MVA ONAN Z=6%
GEN SWITCHGEAR CUB1
GEN SWITCHGEAR CUB2
NATIONAL GRID
DEEPWATER WIND
DEEPWATER WIND
BLOCK ISLAND POWER COMPANY
SS-1 4.16KV-120/240V
STATION SERVICE
(1) 400/5A
34.5KV-33KV 20/26.5/33MVA ONAN/ONAF/ONAF Z=8%
(3) 8000/5A C200
(3) 5000/5A C400 MR
5.5 MILES 750 kcmil SUBMARINE CABLE
WTG 3.6MW (TYP)
G8 G7 G6 G5 G4 G3 G2 G1
DEEPWATER WIND OFFSHORE WIND FARM
0.3 MILES 750 kcmil SUBMARINE CABLE (TYP)
SUBMARINE CABLE
LA
1200A
BY VENDOR MOUNTED IN TOWER BASE
33KV 4MVA OA 65°C 690V
4000A
BY VENDOR MOUNTED IN NACELL
4,111KVA, 0.9PF 690V (TYP)
TYPICAL WIND TURBINE GENERATOR ONE-LINE
NOTES:
1.
LEGEND:
TRANSFORMER
△ = DELTA CONNECTION
Y = WYE CONNECTION
WYE GROUNDED CONNECTION
CIRCUIT SWITCHER 89L1B = DEVICE NAME 1200A = RATING
POTENTIAL TRANSFORMER (PT) VOLTAGE TRANSFORMER (VT) (3) = QUANTITY 14.4KV-120V = RATIO
CURRENT TRANSFORMER (CT) (3) = QUANTITY 400/5A = RATIO C400 MR = CLASS, MULTI RATIO
MEDIUM VOLTAGE, DRAWOUT TYPE, METAL CLAD AIR CIRCUIT BREAKER F1 = BREAKER NAME 1200A = TRIP RATING
MEDIUM VOLTAGE DRAWOUT TYPE DEVICE
EMPTY SPACE IN MEDIUM VOLTAGE, METAL CLAD SWITCHGEAR OR MCC
SWITCH AND FUSE 400A = AMPERE SWITCH SIZE 300A = AMPERE FUSE SIZE
DISCONNECT SWITCH
SURGE ARRESTOR (SA) LIGHTNING ARRESTOR (LA)
SYSTEM OR EQUIPMENT GROUND
FUSE
MOTOR OPERATOR
METER V = VOLT A = AMPERE
KIRK KEY (FOR INTERLOCK)
CABLE TERMINATION
WIND GENERATOR G1 = GENERATOR NUMBER 1
B UPDATED CABLE TYPES KS – BWK NG BWK
A PROGRESS KS – BWK NG BWK
REV DATE DESCRIPTION
DRAWN BY C. DAVIS
CHECKED BY B KNODEL
RESP. ENGR. C. DAVIS
CHIEF DISC. ENGR. N. GHANTOUS
PROJECT MANAGER B KNODEL
PRELIMINARY NOT FOR CONSTRUCTION
Careba Mott MacDonald
400 BLUE HILL DRIVE, WESTWOOD, MA 02090
CLIENT/PROJECT TITLE
DEEPWATERWIND
DEEPWATER BLOCK ISLAND
28MW RHODE ISLAND WIND FARM
ONE-LINE OPTION C (69KV)
SCALE NONE
DATE CREATED 7/21/09
SIZE E
DRAWING NO. 254933-E-101C
REV. B



PLANE
(SCALE: 1" = 30')

FOR INFORMATION ONLY

SCALE IN FEET
0 30 60 90 120 150 180

NOTES:
1.

LEGEND:
- STREET CENTER LINE
- EXISTING FENCE
- EXISTING BUILDINGS
- EDGE OF DIRT ROAD
- NEW EQUIPMENT
- NEW FENCE
- 69KV UNDERGROUND
- 33KV, 34.5KV & 4.16KV UNDERGROUND
- 34.5KV OVERHEAD
- REMOVE
- EDGE OF WETLAND
- WET AREA

REV	DATE	DESCRIPTION	DRAWN	CHECKED	RESP.ENGR.	CH.DISC.ENG.	PROJ. MGR.
A	07/24/09	PROGRESS	KS	BK	CD	NG	BK

DRAWN BY: K. SOKOLOWSKI
CHECKED BY: B. KNODEL
RESP. ENGR.: C. DAVIS
CHIEF DISC. ENGR.: N. GHANTOUS
PROJECT MANAGER: B KNODEL

PRELIMINARY
NOT FOR
CONSTRUCTION
REPLACE WITH ENGINEERS STAMP AT CONSTRUCTION AND/OR FABRICATION ISSUE IF REQUIRED BY PROJECT ADMINISTRATION MANUAL

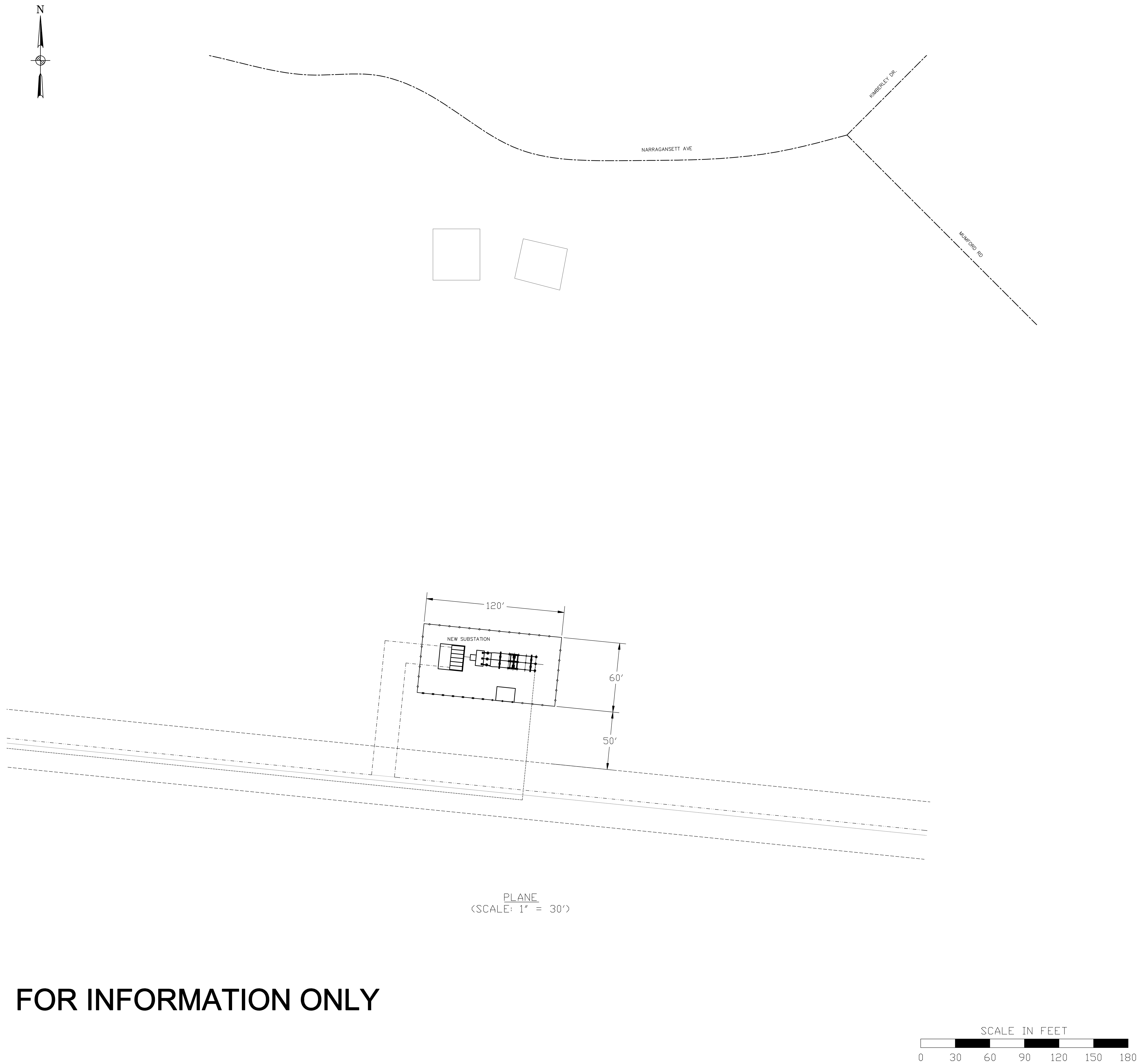
Careba Mott MacDonald
400 BLUE HILL DRIVE, WESTWOOD, MA 02090
www.carebapower.com; www.mottmac.com

CLIENT/PROJECT TITLE
DEEPWATERWIND

DEPT. ELECTRICAL
NO. 254933

DEEPWATER BLOCK ISLAND
GENERAL EQUIPMENT
LAYOUT OPTION C (69KV)

SCALE: NONE
DATE CREATED: 7/21/09
SIZE: E
DRAWING NO. 254933-E-301C
REV. A



FOR INFORMATION ONLY

NOTES:

1.

LEGEND:

- STREET CENTER LINE
- EXISTING BUILDINGS
- NEW EQUIPMENT
- NEW FENCE
- 69KV UNDERGROUND
- BIKE PATH
- NEW 34.5KV UNDERGROUND
- NEW 34.5KV TRANSMISSION TAP
- 34.5KV TRANSMISSION LINE (3302)
- REMOVE
- EDGE OF ROW
- WET AREA

REV	DATE	DESCRIPTION	DRAWN	CHECKED	RESP.ENGR.	CH.DISC.ENG.	PROJ. MGR.
A	07/24/09	PROGRESS	KS	BK	CD	NG	BK

DRAWN BY: K. SOKOLOWSKI
CHECKED BY: B. KNODEL
RESP. ENGR.: C. DAVIS
CHIEF DISC. ENGR.: N. GHANTOUS
PROJECT MANAGER: B KNODEL

PRELIMINARY NOT FOR CONSTRUCTION
REPLACE WITH ENGINEERS STAMP AT CONSTRUCTION AND/OR FABRICATION ISSUE IF REQUIRED BY PROJECT ADMINISTRATION MANUAL

Careba Mott MacDonald
400 BLUE HILL DRIVE, WESTWOOD, MA 02090
www.carebapower.com; www.mottmac.com

CLIENT/PROJECT TITLE
DEEPWATERWIND

DEPT. ELECTRICAL
NO. 254933

DEEPWATER BLOCK ISLAND
MAIN LAND SUBSTATION
LAYOUT OPTION C1 (69KV)

SCALE: NONE
DATE CREATED: 7/21/09
SIZE: E
DRAWING NO.: 254933-E-320C1
REV.: A

SIEMENS

SWT-3.6-107 Technical Specifications

Rotor

Type	3-bladed, horizontal axis
Position	Upwind
Diameter	107 m
Swept area	9000 m²
Nominal rotor speed	5-13 rpm
Power regulation	Pitch regulation with variable speed
Rotor tilt	6 degrees

Blades

Type	B52
Blade length	52 m
Tip chord	1.0 m
Root chord	4.2 m
Aerodynamic profile	NACA 63.xxx, FFAxxx
Material	GRE
Surface gloss	Semi-matt, < 30 / ISO2813
Surface colour	Light grey, RAL 7035

Aerodynamic Brake

Type	Full span pitching
Activation	Active, hydraulic

Load Supporting Parts

Hub	Nodular cast iron
Main bearings	Spherical roller bearings
Main shaft	Alloy steel
Nacelle bedplate	Steel

Transmission System

Coupling hub - shaft	Flange
Coupling shaft – gearbox	Shrink disc
Gearbox type	3-stage planetary/helical
Gearbox ratio	1 : 119
Gearbox lubrication	Forced lubrication
Oil volume	Approx. 750 l
Gearbox cooling	Separate oil cooler
Gearbox designation	PZAB 3540
Gearbox manufacturer	Winergy AG
Coupling gear - generator	Double flexible coupling

Mechanical Brake

Type	Hydraulic disc brake
Position	High speed shaft
Number of callipers	2

Generator

Type	Asynchronous
Nominal power	3600 kW
Protection	IP 54
Cooling	Integrated heat exchanger
Insulation class	F

Canopy

Type	Totally enclosed
Material	Steel / Aluminium
Surface gloss	Semi-matt, 30-40 / ISO2813
Colour	Light grey, RAL 7035

Yaw System

Type	Active
Yaw bearing	Internally geared slew ring
Yaw drive	Six electric gear motors
Yaw brake	Active friction brake

Controller

Type	Microprocessor
SCADA system	Web WPS
Controller designation	WTC 3

Tower

Type	Cylindrical and/or tapered tubular
Hub height	80 m or site specific
Corrosion protection	Painted
Surface gloss	Semi-matt, 30-40 / ISO2813
Colour	Light grey, RAL 7035

Operational Data

Cut-in wind speed.	3-5 m/s
Nominal power at	13-14 m/s
Cut-out wind speed	25 m/s
Maximum 2 s gust	55 m/s (standard version) 60-80 m/s (special version)

Weights (approximately)

Rotor	95,000 kg
Nacelle	125,000 kg
Tower for 80 m hub height	250,000 kg

Siemens Wind Power reserves the right to change the above specifications

Appendix C

SIEMENS

Ct Data, SWT-3.6-107, 1.225 kg/m3
Doc ID: PG-R3-10-0000-0092-02
HST / 08.10.2007
Conveyed confidentially as trade secret

SWT-3.6-107, 1.225 kg/m3
Ct-Curve

The calculated thrust coefficient data is valid for clean rotor blades, wind shear exponent less than 0.2, and horizontal, undisturbed air flow with 10% turbulence intensity.

The thrust coefficient Ct is defined by the following expression:

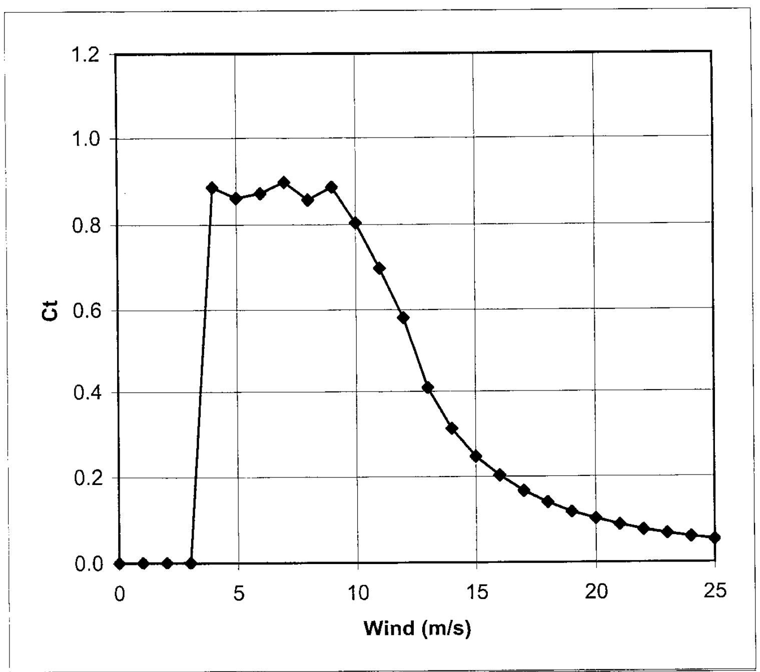
Ct is defined by the following expression:

Ct = F / (0.5*rho*w^2*A)

where

F = Rotor force [N]
rho = Air density [kg/m3]
w = Wind speed [m/s]
A = Swept area of rotor [m2]

Wind [m/s]	Ct -
0	0.000
1	0.000
2	0.000
3	0.000
4	0.885
5	0.861
6	0.871
7	0.897
8	0.856
9	0.886
10	0.803
11	0.698
12	0.581
13	0.409
14	0.311
15	0.246
16	0.203
17	0.166
18	0.140
19	0.117
20	0.101
21	0.088
22	0.075
23	0.067
24	0.060
25	0.053



SWT-3.6-107
Design Climatic Conditions

The design climatic conditions are the boundary conditions at which the turbine can be applied without supplementary design review. Application of the wind turbine in more severe conditions may be possible, depending on the overall circumstances. A project-specific review requires the completion by the Client of the SWP form "Project Climatic Conditions".

Subject	ID	Issue	Unit	Value
1. Wind, operation	1.1	Wind definitions	-	IEC 61400-1
	1.2	IEC class	-	S
	1.3	Maximum air density, ρ	kg/m^3	1.225
	1.4	Maximum mean wind speed, v_{ave}	m/s	10
	1.5	Maximum Weibull scale parameter, A	m/s	11.3
	1.6	Weibull shape parameter, k	-	2
	1.7	Maximum wind shear exponent, α	-	0.20
	1.8	Maximum mean turbulence intensity at 15 m/s	-	0.16
	1.9	Maximum standard deviation of turbulence intensity	-	0.02
	1.10	Maximum standard deviation of wind direction	Deg	7.5
	1.11	Maximum flow inclination,	Deg	8
	1.12	Minimum turbine spacing, in rows	D	3
	1.13	Minimum turbine spacing, between rows	D	5
2. Wind, extreme	2.1	Wind definitions		IEC 61400-1
	2.2	Maximum air density, ρ	kg/m^3	1.225
	2.3	Maximum hub height 10 min.wind, $v10_{max}$	m/s	50
	2.4	Maximum 3 s gust in hub height, $v_{hub,3s}$	m/s	70
	2.5	Maximum hub height power law index, α	-	0.20
3. Temperature	3.1	Temperature definitions	-	IEC 61400-1
	3.2	Minimum temperature, stand-still, $T_{min,s}$	Deg.C	-20
	3.3	Minimum temperature, operation, $T_{min,o}$	Deg.C	-10
	3.4	Maximum temperature, operation, $T_{max,o}$	Deg.C	35
	3.5	Maximum temperature, stand-still, $T_{max,s}$	Deg.C	45
4. Corrosion	4.1	Corrosion definitions	-	ISO 12944
	4.2	External corrosion class onshore	-	C3
	4.3	External corrosion class offshore	-	C5-M
	4.4	Internal corrosion class onshore	-	C2
	4.5	Internal corrosion class offshore	-	C3
	4.6	Internal climate control	-	Yes
5. Lightning	5.1	Lightning definitions	-	IEC 62305-1
	5.2	Lightning Protection Level (LPL) acc to IEC 62305	-	LPL I
6. Dust	6.1	Dust definitions	-	-
	6.2	Dust conditions, ground level	-	Normal DK
	6.3	Dust conditions, hub height	-	Normal DK
7. Hail	7.1	Maximum hail diameter	mm	20
	7.2	Maximum hail falling speed	m/s	20
8. Ice	8.1	Ice definitions	-	IEC 61400-1
	8.2	Ice conditions	Days/year	4-7
9. Trees	9.1	If height of trees within 500 m of any turbine location height exceeds 1/3 of H – D/2 where H is hub height and D is rotor diameter then restrictions may apply. Please contact SWP for information on the maximum allowable tree height for the site and turbine type.		

SIEMENS

SWT-3.6-107 Electrical Specifications

Generator

Type	Asynchronous
Nominal power	3600 kW
Speed range	600 - 1800 rpm
Nominal voltage	750V at 1550 rpm
Nominal current	3120 A
Frequency	16,5 - 60 Hz
Protection	IP 54

Generator Protection

Insulation class	F
Winding temperatures	2 x 3 PT100 sensors
Bearing temperatures	1 PT100 at each bearing
Bearing insulation	Insulation at both bearings
Grounding brush	On drive end

Generator Cooling

Cooling system	Air to air
Ventilation	External fan
Ventilation type	Centrifugal
External flow direction	From N-end to D-end
Control parameter	Winding temperature

Frequency Converter

Operation	4Q Full scale converter
Switching	PWM
Switching frequency	1250/2500 Hz
Cooling	Liquid

Power Factor at 690 V and Nominal Grid Conditions

Power factor correction	Frequency converter control
Power factor range	0,9 cap. to 0,9 ind. at nominal balanced voltage

Main Circuit Protection

Short circuit protection	Circuit breaker
Surge arrester	100 kA varistors

Peak Power Levels

10 min average	100 % of nominal
30 sec average	102 % of nominal

Grid Requirements

Nominal grid frequency	50 or 60 Hz
Minimum voltage	90 % of nominal
Maximum voltage	110 % of nominal
Minimum frequency	94 % of nominal
Maximum frequency	104 % of nominal
Maximum current asym.	5%
Max 1 s. short circuit level at controller's grid Terminals (690 V)	62 kA
Min. 1 s short circuit level at controller's grid terminals (690 V)	5 x Pn
Grid error numbers	Max. 300 per year

Power Consumption from Grid (approximately)

At stand-by	8.0 kW
At stand-by, yawing	15 kW
Before cut-out (60 s)	25 kW
After cut-out (600 s)	25 kW

Transformer Requirements

Transformer impedance requirement	6 %
Secondary voltage	690 V
Vector group	Dyn 11 (star point earthed)

Earthing Requirements

Earthing system	Acc. to IEC62305-3 ED 1.0:2006
Depth electrodes	Min. 2 pcs 50 mm^2 Cu, 120° separation
Inner ring electrode	50 mm^2 Cu 1 m from tower
Outer ring electrode	50 mm^2 Cu min. 10 m from tower
Foundation reinforcement	Must be connected to earth electrodes
Foundation terminals	Min. 6 stainless pads in two levels corresponding to ring electrodes, separated at 120°
HV connection	HV cable shield shall be connected to earthing system
Cable tray conductor	Min. 50 mm^2 bare Cu parallel to HV cable

Siemens Wind Power reserves the right to change the specifications without previous notice
All data are subject to tolerances in accordance with IEC.

SIEMENS

Sales Power Curve, SWT-3.6-107
Document PG-R3-10-0000-0052-03
HST / 08.10.2007
Conveyed confidentially as trade secret

SWT-3.6-107
Sales Power Curve

The calculated power curve data is valid for standard air density conditions of 15 deg.C Air temperature, 1013 mBar air pressure and 1.225 kg/m3 air density, clean rotor blades, wind shear exponent less than 0.2, and horizontal, undisturbed air flow with 10% turbulence intensity.

Wind [m/s]	Power [kW]
0	0
1	0
2	0
3	0
4	80
5	238
6	474
7	802
8	1234
9	1773
10	2379
11	2948
12	3334
13	3515
14	3577
15	3594
16	3599
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18	3600
19	3600
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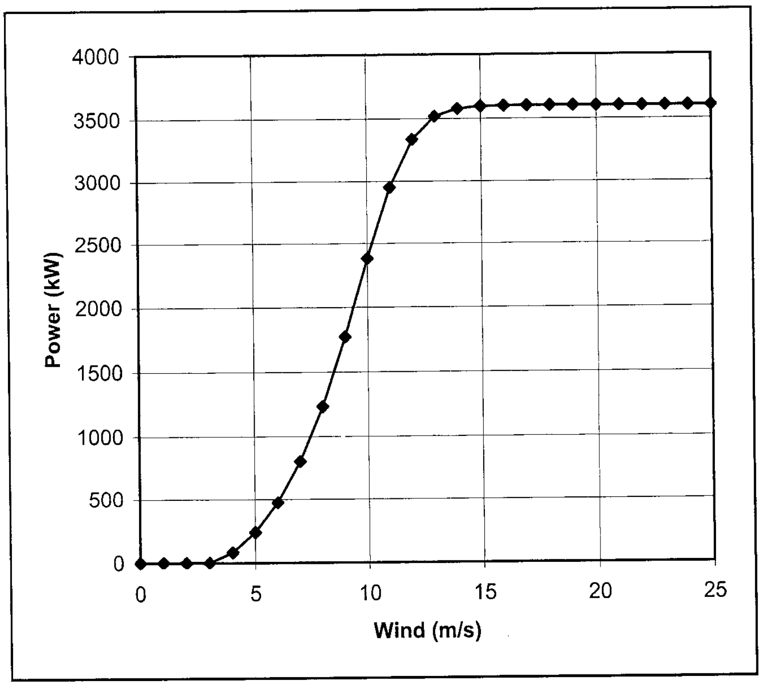
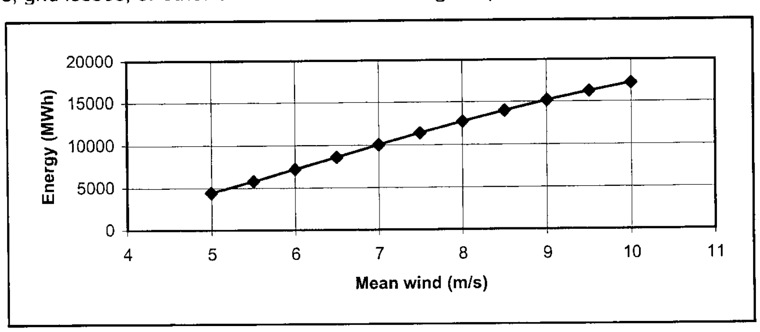
21	3600
22	3600
23	3600
24	3600
25	3600



The annual energy production data for different annual mean wind speeds in hub height is calculated from the above power curve assuming a Rayleigh wind speed distribution, 100 percent availability, and no reductions due to array losses, grid losses, or other external factors affecting the production.

Wind [m/s]	Energy [MWh]
5.0	4435
5.5	5777
6.0	7166
6.5	8579
7.0	10002
7.5	11358
8.0	12695
8.5	13926
9.0	15100
9.5	16181
10.0	17171



SWT-3.6-107
Technical Description

General
The following is a brief technical description of the main components of the SWT-3.6-107 wind turbine.

Rotor
The SWT-3.6-107 rotor is a three-bladed cantilevered construction, mounted upwind of the tower. The power output is controlled by pitch regulation. The rotor speed is variable and is designed to maximize the aerodynamic efficiency.

Blades
The B52 blades are made of fiberglass-reinforced epoxy in Siemens' proprietary IntegralBlade® manufacturing process. In this process the blades are cast in one piece to eliminate weaker areas at glue joints. The blades are mounted on pitch bearings and can be feathered 80 degrees for shutdown purposes. Each blade has its own independent pitching mechanism capable of feathering the blade under any operating condition. The blade pitch arrangement allows for optimization of the power output throughout the operating range, and the blades are feathered during standstill to minimize wind loads.

Rotor Hub
The rotor hub is cast in nodular cast iron and is fitted to the main shaft with a flange connection. The hub is sufficiently large to provide a comfortable working environment for two service technicians during maintenance of blade roots and pitch bearings from inside the structure.

Main Shaft and Bearing
The main shaft is forged in alloy steel and is hollow to facilitate the transfer of power and signals to the blade pitching system. The main shaft is supported by two self-aligning double spherical roller bearings which are shrunk onto the main shaft. The bearings are grease lubricated and the bearing seals are labyrinth seals.

Gearbox
The gearbox is a custom-built three-stage planetary-helical design. The first two high torque stages are of a helical planetary design. The high-speed stage is of a normal helical design and provides the offset of the high speed shaft that is needed to allow passage of power and control signals to the pitch systems.

The gearbox is shaft-mounted and the main shaft torque is transferred to the gearbox by a shrink disk connection. The gearbox is supported on the nacelle with flexible rubber bushings.

The gearbox is fitted with an oil conditioning system. All bearings are lubricated with oil fed directly from a large in-line filter and is cleaned by an off-line filter unit.

The gearbox is fitted with sensors for monitoring temperature, oil pressure and vibration levels.

Generator
The generator is a fully enclosed asynchronous generator. The generator has a squirrel-cage rotor without slip-rings. The generator rotor construction and stator winding is designed for high efficiency at partial loads. The generator is protected with thermal switches and analogue temperature measurement sensors.

The generator is fitted with a separate thermostat-controlled ventilation arrangement. Air is re-circulated internally in the generator and heat is transferred through an air-to-air heat exchanger that separates the internal environment in the generator from the ambient air.

Mechanical Brake
The mechanical brake is fitted to the gearbox high-speed shaft and has two hydraulic calipers.

Yaw System

The yaw bearing is an internally geared slewing ring fitted with a hydraulic disc brake. Six electric planetary gear motors drive the yawing.

Tower
The SWT-3.6-107 wind turbine is mounted on a tapered tubular steel tower. The tower has internal ascent and direct access to the yaw system and nacelle. It is equipped with platforms and internal electric lighting.

Controller
The wind turbine controller is a microprocessor-based industrial controller. The controller is complete with switchgear and protection devices. It is self-diagnosing and has a key board and display for easy readout of status and for adjustment of settings.

The NetConverter® power conversion system allows generator operation at variable speed, frequency and voltage while supplying power at constant frequency and voltage to the MV transformer. The power conversion system is a modular arrangement for easy maintenance and is water cooled.

SCADA
The SWT-3.6-107 wind turbine is equipped with the Siemens WebWPS SCADA system. This system offers remote control and a variety of status views and useful reports from a standard internet web browser. The status views present information such as electrical and mechanical data, operation and fault status, meteorological data and grid station data.

Turbine Condition Monitoring
In addition to the Siemens WebWPS SCADA system, the SWT-3.6-107 wind turbine is equipped with the unique Siemens TCM condition monitoring system. This system monitors the vibration level of the main components and compares the actual vibration spectra with a set of established reference spectra. Result review, detailed analysis and reprogramming can all be carried out using a standard web browser.

Operation Systems
The wind turbine operates automatically. It is self-starting when the wind speed reaches an average of about 3 to 5 m/s (about 10 mph). The output increases approximately linearly with the wind speed until the wind speed reaches 13 to 14 m/s (about 30 mph). At this point, the power is regulated at rated power.

If the average wind speed exceeds the maximum operational limit of 25 m/s (about 56 mph), the wind turbine is shut down by feathering the blades. When the average wind speed drops back below the restart average wind speed, the systems reset automatically.

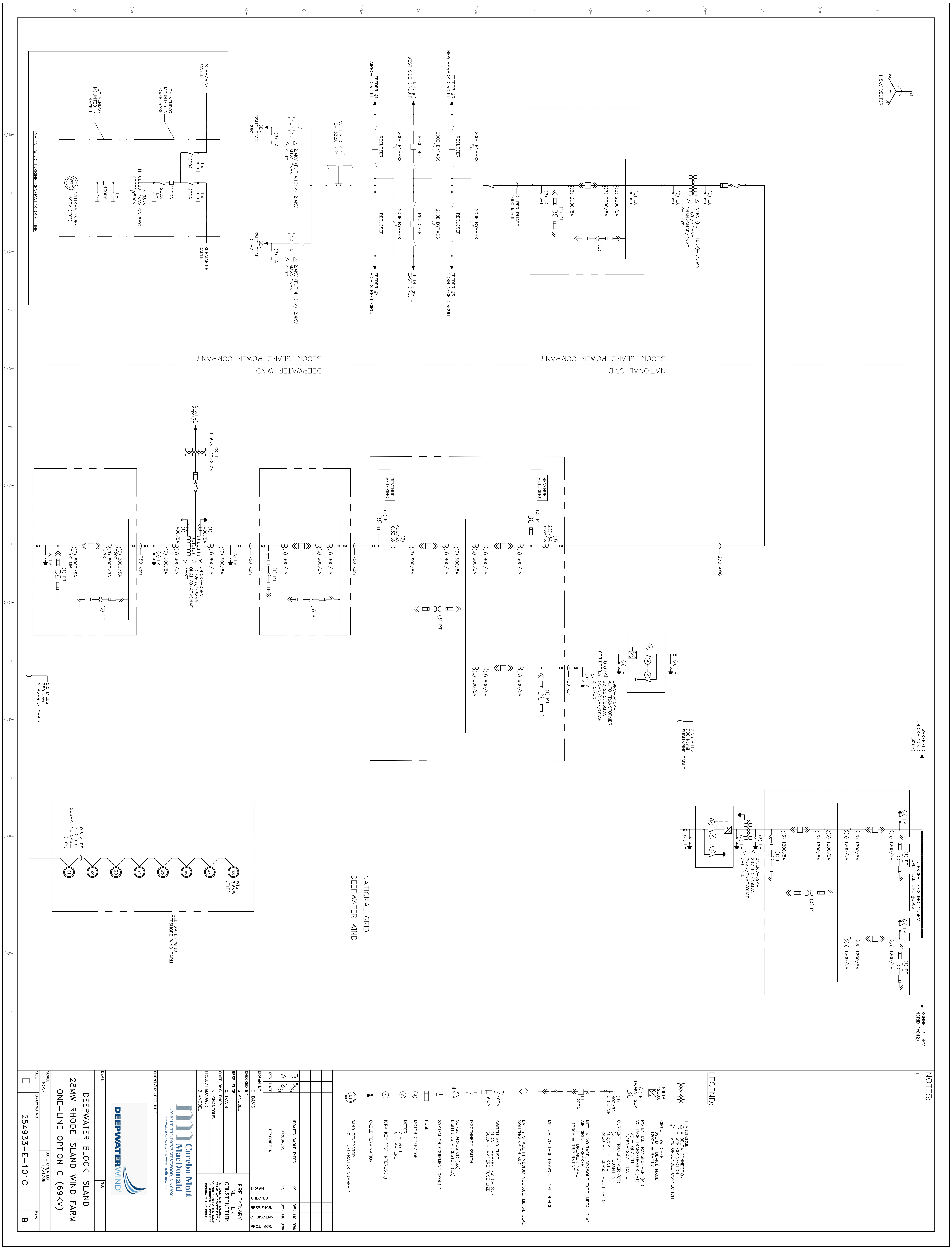
Siemens Wind Power A/S reserves the right to change the above description without previous notice.

Appendix C

BIPCO Monthly Load (kWh)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
JAN	421,763	443,888	435,296	536,247	516,583	526,433	611,960	811,920	667,869	674,128	614,164	622,428
FEB	373,148	454,454	411,844	493,378	488,345	493,644	668,424	574,613	555,671	569,098	624,369	564,593
MAR	461,024	420,420	473,979	488,975	605,368	573,189	570,521	574,925	639,049	590,877	587,775	630,606
APR	466,718	455,692	513,059	608,622	561,207	581,918	638,371	631,382	688,454	650,657	724,746	624,720
MAY	610,468	711,823	749,127	712,275	739,634	764,112	772,344	826,462	782,227	832,395	853,566	758,961
JUNE	899,833	868,467	945,883	905,336	929,149	1,100,669	1,060,102	1,073,208	1,101,384	1,071,364	1,086,257	1,161,035
JULY	1,172,783	1,189,401	1,424,673	1,309,520	1,438,630	1,436,784	1,520,693	1,680,308	1,738,890	1,739,873	1,618,789	1,657,403
AUG	1,078,334	1,326,597	1,271,403	1,374,147	1,415,539	1,439,322	1,732,705	1,536,886	1,664,250	1,708,289	1,587,614	1,431,057
SEPT	935,646	900,840	944,171	935,979	1,081,550	1,145,776	923,866	1,082,416	1,125,177	1,134,070	1,280,665	1,157,132
OCT	629,943	714,228	731,315	725,164	709,151	753,387	768,801	829,745	841,528	740,574	805,653	745,395
NOV	529,027	462,011	529,156	553,610	518,395	672,201	653,732	596,284	611,967	607,834	619,799	
DEC	439,334	540,443	597,072	616,172	615,880	635,703	599,854	619,687	620,142	671,924	671,619	
	8,018,021	8,488,264	9,026,978	9,259,425	9,619,431	10,123,138	10,521,373	10,837,836	11,036,608	10,991,083	11,075,016	9,353,330

Appendix D


NOTES:
LEGEND:
BLOCK ISLAND POWER COMPANY
NATIONAL GRID
DEEPWATER WIND
PRELIMINARY
NOT FOR CONSTRUCTION
DEEPWATER BLOCK ISLAND
28MW RHODE ISLAND WIND FARM
ONE-LINE OPTION C (69KV)
254933-E-101C

Appendix E

Deepwater Wind
Block Island Off-Shore Wind Farm
69 kV and 35 kV XLPE Submarine Cable

Technical Specification

1. List of content

2. Submarine Cable Design Features

The solid dielectric (XLPE) submarine cables described in this Technical Specification will be part of a proposed wind farm off the south east coast of Block Island, Rhode Island. The wind turbine generators ("WTGs") will be connected in series using 34.5 kV, three-core, submarine cables. From the first WTG, the 34.5 kV export submarine cable will extend for approximately 4.5 nautical miles (8.3 km) to a transition splice vault situated on Block Island. The off-shore to on-shore transition will be via a 2500 feet long HDD. From a 34.5 kV / 69 kV substation on Block Island, there will be an 18 nautical miles (33 km) long 69 kV transmission submarine cable to a transition splice vault on the Rhode Island mainland. The off-shore to on-shore transition will be via 2500 feet long HDDs, one at each landfall.

The insulation system for each of the cable cores will be extruded in a true triple-head continuous vulcanization line at ABB's high voltage cable factory in Karlskrona, Sweden.

Conductor

The copper conductor shall be designed in accordance with IEC standard 60228. The shape shall be round, stranded and compacted (34.5 kV cable design) or round and solid (69 kV cable design). Longitudinal water sealing is achieved by using compound and swelling tapes.

Insulation System

The XLPE insulation system shall be triple-extruded and dry-cured. It shall consist of:

- Conductor Screen
- Insulation
- Insulation Screen

Longitudinal water sealing

Overlapped semi-conductive tapes under the metallic sheath prevent longitudinal water penetration.

Metallic sheath

A lead alloy sheath prevents radial moisture ingress. The metallic sheath shall be able to carry the specified single-phase earth fault current during 0.25 seconds.

Armour bedding

Polymeric tapes.

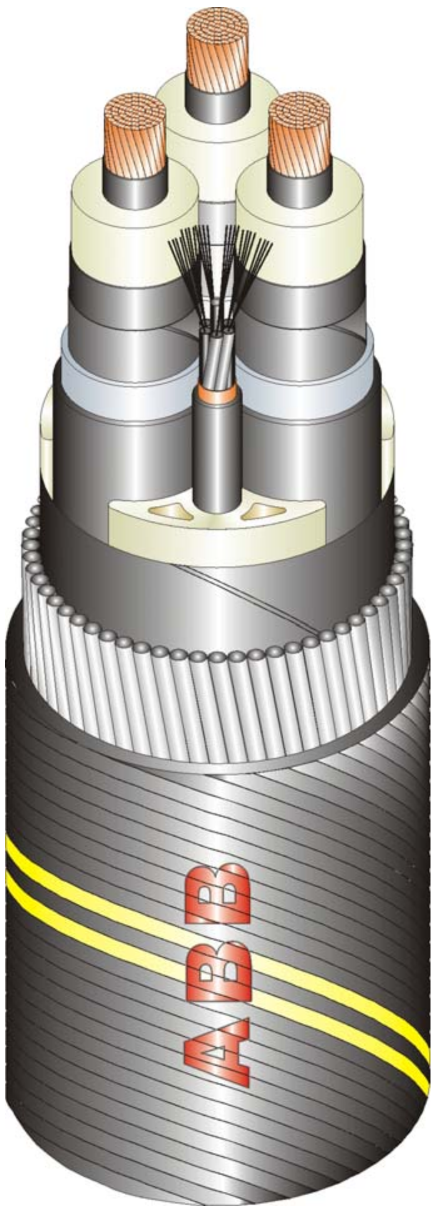
Armour wires

A galvanized steel wire armouring provides increased tensile strength to the cable during installation and mechanical protection from external aggression.

Outer serving

The cable's outer serving consists of two layers of black blanket polypropylene yarn. Two stripes in the outer serving will be coloured yellow, in order to ease identification of the cable at the sea bottom.

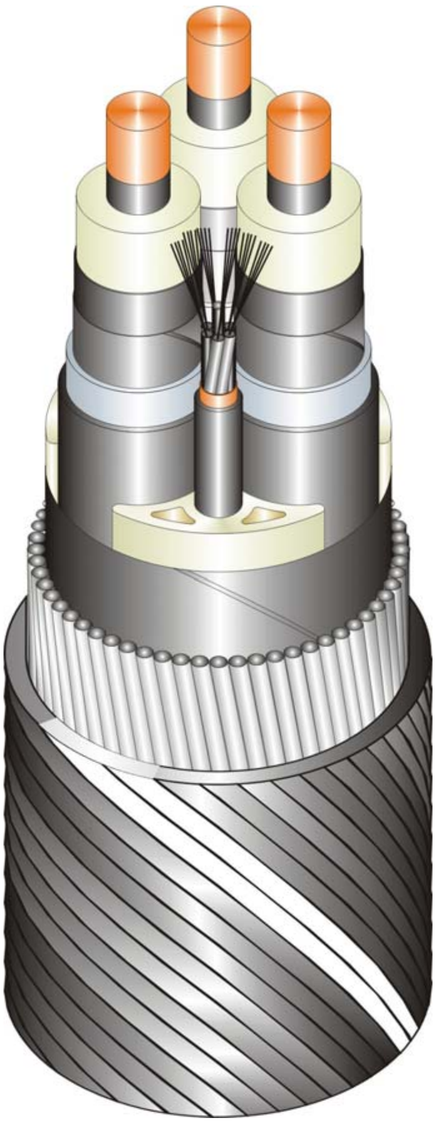
2.1. Cable design data – FXBTV 3×500 kcmil, 35 kV



Designation	FXBTV 3×500 kcmil
Rated voltage (133% insulation)	26/46 kV
Impulse level	250 kV
Conductor	
type	round compacted
material	copper
cross-section	3×500 kcmil
longitudinal water seal	filling compound
Conductor screen	
material	conductive PE
thickness	39.4 mils (1.0 mm)
Insulation	
type	dry cured, triple extruded
material	XLPE
thickness	433 mils (11 mm)
Insulation screen	
material	conductive PE
thickness	39.4 mils (1.0 mm)
Longitudinal water seal	
material	conductive swelling tape
Metallic sheath	
material	lead alloy
thickness	67 mils (1.7 mm)
Longitudinal water seal	
material	conductive swelling tape
Inner sheath	
material	conductive PE
thickness	63 mils (1.6 mm)
Assembling	
material 1	polymeric profiles
material 2	fibre optical cable (12 fibres)
material 3	grease
Cable core binder	
material	polymeric tape
Bedding	
material	bitumen impregnated jute tape
Armour	
material 1	Galvanized steel wires
material 2	Bitumen
wire diameter	238 mils (6.05 mm)
Armour	
material 1	Polypropylene yarns
material 2	Bitumen
Complete cable	
diameter	≈ 5.35 inches (136 mm)
weight	≈ 25.5 lbs/ft (38 kg/m)
Maximim continuous load current	**482 A**
burial depth	3.3 ft (1.0 m)
thermal resistivity of seabed sediments	100 K×cm/W
ambient temperature of seabed sediments	20ºC

All data is indicative

2.2. Cable design data – FXBTV 3×300 kcmil, 69 kV



Designation	FXCTV 3×250 kcmil
Rated voltage (133% insulation)	26/46 kV
Impulse level	250 kV
Conductor	
type	round solid
material	copper
cross-section	3×300 kcmil
Conductor screen	
material	conductive PE
thickness	39.4 mils (1.0 mm)
Insulation	
type	dry cured, triple extruded
material	XLPE
thickness	433 mils (11 mm)
Insulation screen	
material	conductive PE
thickness	39.4 mils (1.0 mm)
Longitudinal water seal	
material	conductive swelling tape
Metallic sheath	
material	lead alloy
thickness	79 mils (2 mm)
Longitudinal water seal	
material	conductive swelling tape
Inner sheath	
material	conductive PE
thickness	59 mils (1.5 mm)
Assembling	
material 1	polymeric profiles
material 2	fibre optical cable (12 fibres)
material 3	grease
Cable core binder	
material	polymeric tape
Bedding	
material	bitumen impregnated jute tape
Armour	
material 1	Galvanized steel wires
material 2	Bitumen
wire diameter	197 mils (5 mm)
Armour	
material 1	Polypropylene yarns
material 2	Bitumen
Complete cable	
diameter	≈ 4.9 inches (125 mm)
weight	≈ 21.5 lbs/ft (32 kg/m)
Maximum continuous load current	**375 A**
burial depth	3.3 ft (1.0 m)
thermal resistivity of seabed sediments	100K×cm/W
ambient temperature of seabed sediments	20ºC

All data is indicative

3. Installation data

Submarine section	
Target burial depth	3.3 feet (1.0 meters)
Type of installation	Jet burial
Maximum seabed thermal resistivity	100K×cm/W
Maximum seabed ambient temperature	20ºC

4. Calculation of current carrying capacity

The rated current carrying capacity (“ampacity”) for the cables is calculated according to IEC 60287. When designing a cable system, all sections where the cable is installed have to be taken into account. The bottleneck or ‘hot-spot’ for the cable circuit has to be identified and that section will set the transmission capacity for the entire cable system.

Calculation of current capacity in accordance with the IEC 60287 Standard:

$$I = \sqrt{\frac{\Delta\theta - W_d\left[0.5 \cdot T_1 + n \cdot (T_2 + T_3 + T_4)\right]}{R \cdot (T_1 + T_2) + R \cdot (1 + \lambda_1) \cdot (T_3 + T_4)}}$$

§1.4.1.1

Where:

I	current flowing in one conductor	[A]
$\Delta\theta$	conductor temperature rise above the ambient temperature	[°C]
R	AC resistance per unit length of conductor at 90°C temperature	[Ω/m]
W_d	dielectric loss per unit length for the insulation	[W/m]
T_1	thermal resistance per core between conductor and metallic screen	[K×m/W]
T_2	thermal resistance of swelling tape between Cu-screen and lead sheath	[K×m/W]
T_3	thermal resistance of outer cover	
T_4	thermal resistance of surrounding medium	[K×m/W]
λ_1	ratio of losses in the metallic screen/sheath to total losses in conductors	

5. Mechanical data

5.1. FXBTV 3×500 kcmil, 35 kV

- Minimum bending radius for three-core cable
  - (i) during installation — 6.6 ft (2.0 m)
  - (ii) after installation (no tensile load) — 5.3 ft (1.6 m)
- Maximum tensile load — 60 kN (13,490 lbs)
- Minimum coiling <u>diameter</u> (circular coil) — 26 ft (8.0 m)

5.2. FXBTV 3×300 kcmil, 69 kV

- Minimum bending radius for three-core cable
  - (iii) during installation — 7.5 ft (2.3 m)

(iv) after installation (no tensile load) 6.6 ft (2.0 m)

- Maximum tensile load 60 kN (13,490 lbs)
- Minimum coiling diameter (circular coil) 23 ft (7.0 m)

6. Cable terminations

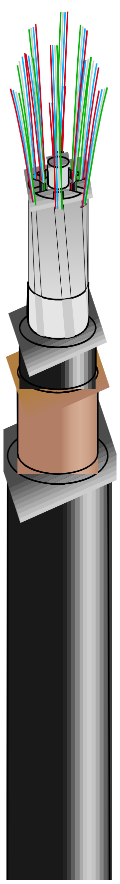
Please refer to Appendix 1 for data on the cable terminations.

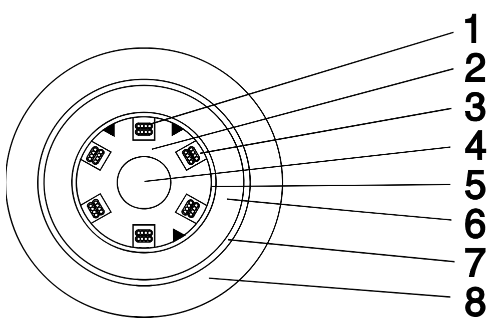
7. Repair joint

The rigid field repair joint for the submarine cable consists of two principal parts: i.e., (i) a pre-moulded XLPE cable splice of the same type used by ABB for splicing of underground XLPE cables, and (ii) a water tight metal enclosure for mechanical and moisture protection of the joint.

Please refer to Appendix 2 for data on the repair joint.

8. Integrated Fibre Optic Cable





1.	Acrylate coated ribbon:	43×16 mils (1.1×0.4 mm)
2.	Slotted core (polyethylene):	335 mils (8.5 mm)
3.	Filling compound (Thixotropic gel)	
4.	Strength member (fibre reinforced plastic):	138 mils (3.5 mm)
5.	Polyester tape wrapping	
6.	Sheath (black polyethylene):	512 mils (13 mm)
7.	Copper sheath:	551 mils (14 mm)
8.	Sheath (black polyethylene):	709 mils (18 mm)

Minimum bending radius:	2.5 ft (0.8 m)
Crush resistance:	100 kN/m (6,850 lbs/ft)
Impact resistance:	50 J
Tensile strength:	1 kN (225 lbs)
Cable weight:	0.27 lbs/ft (0.4 kg/m)

Geometrical and mechanical data for fibres

Mode field diameter at applied light wave length	10.5 µm (at 1,550 nm)
Tolerance of mode field diameter	± 0.5 µm (at 1,550 nm)
Cladding diameter	125 µm
Tolerance of cladding diameter	± 1 µm
Concentricity fault of mode field/cladding	< 0.5µm
Non-circularity of mode field	Not specified
Non-circularity of cladding	1% (approx. 1.25µm)
Minimum bending diameter for maximum attenuation increase of 1 db/100 turns at applied light wave length	60 mm (1)
Maximum strength of fibre	50 N (2)
Proof test tension	8.6 N
Proof test extention	1 %
Proof test time	1 s
Extention at maximum cable tention	<0.3 %
Impact at maximum cable tention	<216 N/mm²
Continuous extention after maximum cable tention	<0.05%
Continuous impact after maximum cable tention	< 36 N/mm²
Fibre lifetime at continuous impact/extention as indicated above	> 40 year
Maximum supply length	25,000 m

Notes: (1) 60 mm and 100 turns give a maximum of 0.05 dB at 1,550 nm.
(2) Typical value for testing 0.5 m lengths.

Optical data for the fibres:

Attenuation in fibres at 1,310 nm (mean value)	≤ 0.36 dB/km
Attenuation in fibres at 1,310 nm (maximum value)	≤ 0.39 dB/km
Attenuation in fibres at 1,550 nm (mean value)	≤ 0.200 dB/km
Attenuation in fibres at 1,550 nm (maximum value)	≤ 0.210 dB/km
Total dispersion at 1,310 nm	≤ 2.8 ps/km × nm
Total dispersion at 1,550 nm	≤ 18 ps/km × nm
Cut-off wave length after cabling	< 1,260nm

9. Appendices

Appendix 1 Data sheet – cable terminations
Appendix 2 Data sheet – repair splice
Appendix 3 ABB reference list – submarine cable systems

Appendix 1

Data Sheet – Cable Terminations

- Reliable
- Proven
- Bolt technology
- Can be assembled horizontally on the ground before installation
- Will fit large cables
- Low total weight
- Integrated insulated installation
- Few components

Outdoor cable termination porcelain: APECB 84-420 composite: APECB 84-300 P

Use
For installations in which the termination is to be used as a fixed connection point and in installations where there is a risk of very high continuous creepage currents.

Standard
Meets the requirements of:
SS, IEC, IEEE

Design
The cable termination consists of a porcelain or composite insulator installed on a box body made of Al castings.

The box body consists partly of insulating material, which provides insulated installation. The base part must be installed on a bracket.

For 420 kV post-insulator kit must be used.

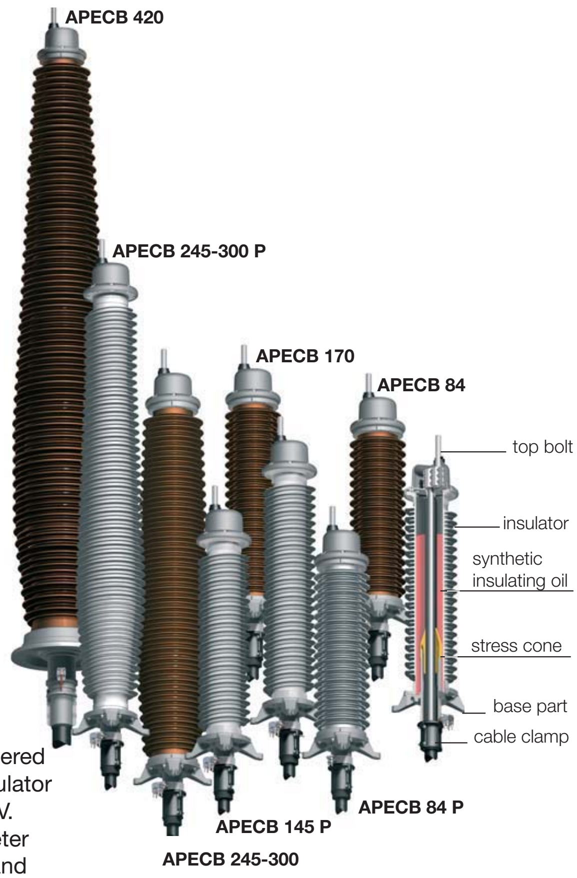
The field control component is a premoulded stress cone.

The insulator has sheds of short-long type and is filled with synthetic insulating oil.

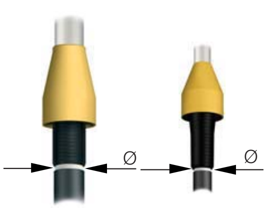
The porcelain insulator can be ordered in brown or grey. The composite insulator is only available in grey for 84-300 kV.

For the maximum permitted diameter across the oversheath of the cable and the diameter across prepared insulation, see the table below.

A screw clamp in the top fitting is used to connect the conductor to the top bolt. Top bolt and screw clamp are included in the kit.



Installation
Installation can be simplified by assembling the termination horizontally on the ground before lifting it into place.



APECB 245
APECB 300
APECB 420

APECB 84
APECB 145
APECB 170

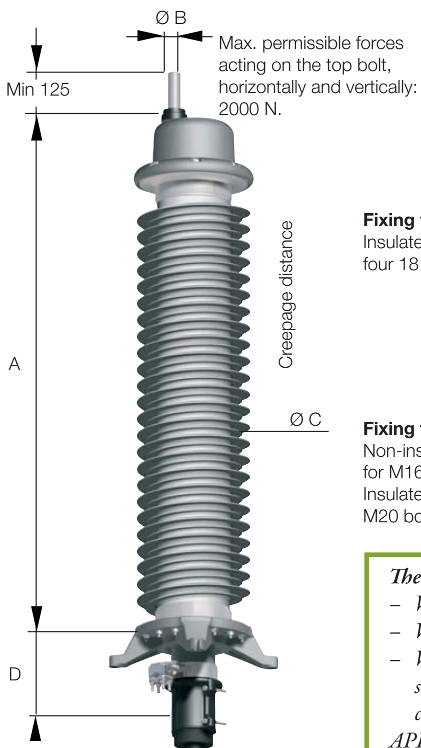
Prepared insulation

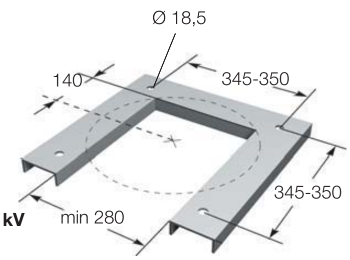
Voltage kV	XLPE-diameter Ø mm min	XLPE-diameter Ø mm max	Outer sheath Ø mm
≤ 170	45.5	107	170
245	45.5	120	170
300	80	120	170
420	80	120	170

When ordering, please state the following data:
- *Voltage*
- *Conductor cross section, diameter*
- *Diameter across prepared insulation*
- *Screen, cross section and type (optical fibres)*
- *Outer diameter of cable*
- *Insulator, porcelain or composite*
- *Top bolt:*
  - *Diameter and material (Cu or Al) for connecting to overhead power line*

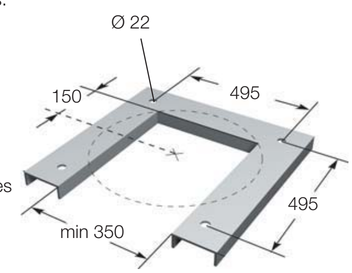
Technical specification
APECB 84-420, APECB 84-300 P

All dimensions in mm





Fixing to bracket for 84-300 kV
Insulated or non-insulated:
four 18 mm holes for M16 bolts.



Fixing to bracket for 420 kV
Non-insulated: four 18 mm holes for M16 bolts.
Insulated: four 22 mm holes for M20 bolts.

There are three versions of insulators for APECB 84-300 kV:
- *With suffix B: Brown porcelain in traditional design.*
- *With suffix G: Grey porcelain in traditional design*
- *With suffix P: Composite insulator with grey silicone rubber and a fibreglass reinforced epoxy, resin hollow core, light-weight and less sensibility for outer damages.*

APECB 420 kV is available only with brown porcelain!

Designation*	Voltage kV	Insulator	Dimensions mm A	ØB	ØC	D	Creepage distance min mm	Net weight kg/kit
APECB 841	84	Porcelain	1300	40/50/54/60	386	235	2710	160
APECB 1452	145	Porcelain	1620	40/50/54/60	386	235	3870	185
APECB 1703	170	Porcelain	1860	40/50/54/60	386	235	4570	220
APECB 1704	170	Porcelain	2120	40/50/54/60	396	235	5500	230
APECB 1705	170	Porcelain	2620	40/50/54/60	396	235	7250	325
APECB 2456	245	Porcelain	2570	40/50/54/60	520	235	8300	515
APECB 3006	300	Porcelain	2570	40/50/54/60	520	235	8300	515
APECB 4201	420	Porcelain	4575	40/50/54/60	760	500	14700	1700
APECB 841 P	84	Composite	1320	40/50/54/60	359	235	2820	100
APECB 1452 P	145	Composite	1620	40/50/54/60	359	235	3750	105
APECB 1703 P	170	Composite	1820	40/50/54/60	359	235	4500	110
APECB 1704 P	170	Composite	2140	40/50/54/60	359	235	5950	120
APECB 1705 P	170	Composite	2720	40/50/54/60	359	235	8000	135
APECB 2456 P	245	Composite	3030	40/50/54/60	490	235	9360	290
APECB 3006 P	300	Composite	3030	40/50/54/60	490	235	9360	290

* When the cable diameter is greater than 120 mm, add: Ø 170 at the end of the designation (e.g. APECB 841 Ø 170).
For 245 kV also add OKT when the cable has optical fibre.
For 84-170 kV and 300-420 kV see next page!

Appendix E

Cable Systems | MV-CONNEX Pluggable Connection System | Separable Connectors | Size 3-S, up to 52 kV | with voltage tap

MV-CONNEX Separable Connectors, Size 3-S

Standard article no.

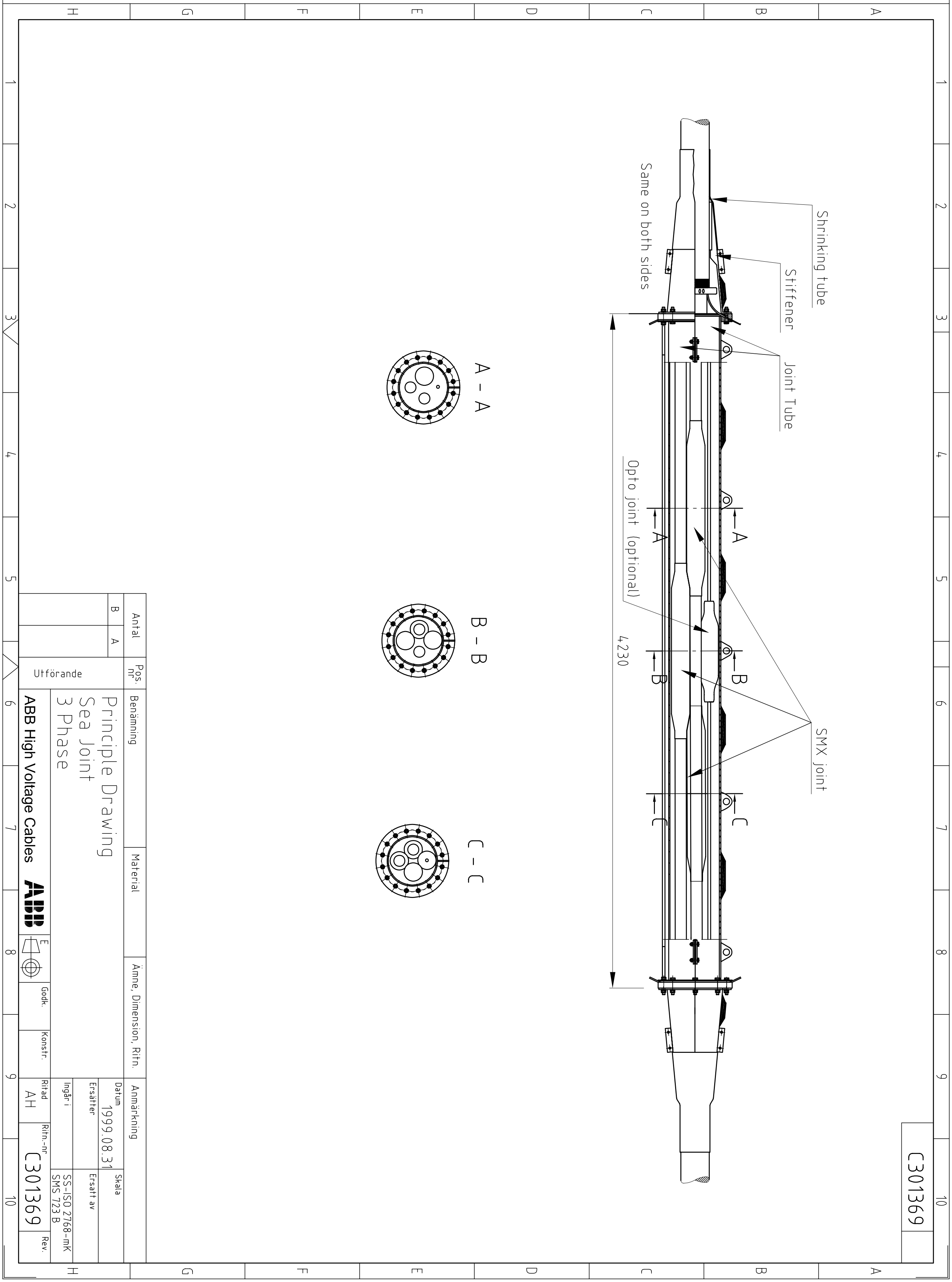
- with sealing system (seal and shrink tubing)
- for indoor and outdoor applications
- not soil and salt-water resistant
- Packaging unit: set with three cable connecting parts
- Voltage taps that are not connected to a voltage display system, must be earthed for size 3-S.

Technical data		
Order number		850 350 400
Size		3-S
Max. operating voltage	U_m (kV)	52
for cable cross-section	(mm^2)	400
for diameters over PE/VPE insulation	Ø (mm)	41.0 - 43.5
Nominal current	I_N (A)	1,250
Weight (kg)	(kg)	9.4
Rated power frequency withstand voltage	1min (kV)	117
Rated lightning impulse withstand voltage (BIL)	(kV)	250
Partial discharge	2 x U_0 (pC)	$\leqslant$ 10
DC voltage test	15 min 6 x U_0 (kV)	156
Rated short-time withstand current	0,5 s (kA)	63
Rated impulse current	(kA)	150

Appendix 2

Data Sheet – Repair Splice

Appendix E


Same on both sides
Shrinking tube
Stiffener
Joint Tube
Opto joint (optional)
SMX joint
4230
A - A
B - B
C - C
Principle Drawing
Sea Joint
3 Phase
ABB High Voltage Cables
Datum 1999.08.31
Ritad AH
Ritn-nr C301369
SS-ISO 2768-mK
SMS 723 B
C301369

Appendix 3

ABB Reference List – Submarine Cable Systems

Appendix E

Reference list
High voltage submarine cables

ABB is the world leader in submarine cable systems.
Our cable technology has become world standard for paper insulated HVDC cables. In paper insulated HVAC cables, XLPE and HVDC Light cables we are equally as renowned.

Founded already in 1870, we have today more than 130 years of experience from cable manufacturing. Our factory in Karlskrona, Sweden, is one of the world's most modern submarine cable production facilities. The plant is purpouse built for manufacture of long and powerful submarine cables, polymeric or paper insulated.
ABB has a complete range of cables and accessories, as well as installation resources for cable laying on land and at sea - we are therefore trusted with turnkey deliveries.

XLPE: Cross-linked polyethylene insulated AC cables

Project	Customer	Country	Year	Quantity (m)	Voltage (kV)	Conductor (mm^2)
Maribor	Elektro Maribor	Slovenija	2007	8580	123	500
Västerås-Etuna	Vattenfall Eldistribution AB	Sweden	2007	6760	145	800
Stavsnäs-Runmarö	Fortum Service AB	Sweden	2007	4450	24	240
Furusund	Vattenfall Eldistribution	Sweden	2007	450	24	240
Q7	Van Oord Dredging	Nederlands	2006	45924	24	240
Q7	Van Oord Dredging	Nederlands	2006	45924	24	240
Lillgrund	Vattenfall	Sweden	2006	36770	145	400
Lillgrund	Vattenfall	Sweden	2006	36770	36	95
Lillgrund	Vattenfall	Sweden	2006	36770	36	185
Lillgrund	Vattenfall	Sweden	2006	36770	36	240
Q7	Van Oord Dredging	The Nederlands	2006	28500	170	400
Bahrain	MEW Bahrain	Bahrain	2006	11000	73	500
Svarta havet	Edwards International	Romania	2006	9143	12	70
Strogino	Moskabel RUSSIA	Russia	2006	6008	245	1200
Lake Victoria	ABB TANZANIA	Tanzania	2006	1250	36	95
Strogino	Moskabel	Russia	2006	6008	245	1200
Lillgrund	Siemens Wind Power	Denmark	2006	7,500	145	3x400
MEW Bahrain	MEW Bahrain	Bahrain	2006	11000	73	500
Lillgrund	Siemens Wind Power	Denmark	2006	24,000	36	3x95-240
Svarta Havet	Edwards International	Romania	2006	9000	12	70
Burbo	Seascape Energy Ltd	Great Britain	2005	10360	36	95
Burbo	Seascape Energy Ltd	Great Britain	2005	6140	36	240
Burbo	Seascape Energy Ltd	Great Britain	2005	27427	36	500
Banjul Basis	National Contracting Co	Gambia	2005	1,075	36	95
Draka	Draka Norsk Kabel AS	Norway	2004	520	24	50
Fox Island, Maine	Caldwell Marine Int.	USA	2004	16,000	34.5	3x250 kcmil
Bråviken	Vattenfall Distribution AB	Sweden	2004	8,785	145	400
Tanzania	ABB PT S.A. Spain	Spain	2004	1,825	36	50
Split	Hrvatska Elektroprivreda	Croatia	2004	8,300	110	800

Appendix E

Reference list
High voltage submarine cables

Project	Customer	Country	Year	Quantity (m)	Voltage (kV)	Conductor (mm^2)
Bodö	Draka	Norway	2004	15,100	24	3x50
Oceaneering	Oceaneering Multiflex	Great Britain	2003	235,000	12	70
Aerö	Jyske Netservice A/S	Denmark	2003	6,200	72	3x240
Djurnäs-Grötå	Vattenfall Västnät	Sweden	2003	1,280	52	3x506
Uzunada - Urla/Izmir	Ministry of Defence, Turkey	Turkey	2003	18,200	15	120
SwePol Link	SwePol Link	Poland	2003	30,000	20	630
Aramco	Saudi Aramco	Saudi Arabia	2003	50,000	115	3x1000kcmil
Sula	Tafjord Kraftnett AS	Norway	2002	5,345	145	400
Samsö	IPP Samsö	DK	2002	7,500	36	3x240
Nysted	Energi E2 A/S	DK	2002	21,196	30	3x185 Cu
Nysted	Energi E2 A/S	DK	2002	33,408	30	3x185 Al
Black Sea	Petrom S.A	Romania	2001	2,750	12	70
Black Sea	Petrom S.A	Romania	2001	2,200	12	120
Cayman Island	Caribbean Utility Comp.	Cayman Island	2000	23,000	72	500
Utgrunden	ENRON Windenergie	Sweden	2000	11,000	24	240
Yttre Stengrunden	NEG Micon	Sweden	2000	21,800	24	240
Svendborg Sund	Fyns Net	Denmark	2000	3,600	72	400
NEC Sudan	NEC	Sudan	1999	2,000	33	300
HEP Croatia	Hrvatska Elektropriveda	Croatia	1998	1,500	110	300
CIEG	Channel Island Electricity	UK: Jersey & Guernsey	1998	37,000	90	3x240
CIEG	Channel Island Electricity	UK: Jersey & Guernsey	1998	27,000	90	3x300
Hayman Island	Mackay Electricity Board	Australia	1998	30,000	24	3x150
Öckerö	Gullspångs Kraft	Sweden	1998	5,950	24	3x300
Danube River	Electromontaj S. A.	Romania	1998	6,000	20	120
Genesis	Genesis Oil & Gas	United Kingdom	1998	45,000	12	70
Jotun	Esso	Norway	1998	6,800	12	185
UAE	Arab Heavy Industries	UAE	1998	500	12	3x300
Shengli Oilfield	Shengli Oil Field Co.	China	1998	7,200	10	3x120
Sudan	Sea Ports Corporation	Sudan	1998	1,000	10	3x185
Tanesco	TANESCO	Tanzania	1997	3,500	33	3x95
STEG	STEG	Tunisia	1997	2,200	33	3x95
Mobil	Mobil Tofacio	Guinea	1997	57,000	24	70
Kallsjön	Jämtkraft	Sweden	1997	28,600	24	3x95
TAEJ	Corpoven	Venezuela	1997	48,000	15	3x50
Demimpex S.A.	Petrolier de Seme	Benin	1997	3,600	12	3x25
Rarik	Rarik	Iceland	1997	3,000	12	3x95
SESCO	SESCO	Malaysia	1997	2,200	12	3x95
DEWA	DEWA	Dubai	1997	1,200	12	3x50
UAE	Arab Heavy Ind.	UAE	1997	1,000	12	3x300
Toll	Oil field Toll	Norway	1997	13,200	10	95
Lövstafjärden	Vattenfall Regionnät AB	Sweden	1996	5,780	84	1200
Al-Khalij	Elf Petroleum	Qatar	1996	149,600	24	3x25
Faroe Islands	Elektricitets Selskabet	Denmark	1996	12,100	24	3x50
Samalaya Island	WED	Abu Dhabi	1996	2,000	15	3x185
Faroe Islands	Elektricitets Selskabet	Denmark	1996	8,000	12	3x25
Faaborg	Faaborg Elforsyning	Denmark	1996	2,200	12	3x95

Appendix E

Reference list
High voltage submarine cables

Project	Customer	Country	Year	Quantity (m)	Voltage (kV)	Conductor (mm^2)
Inter Island Project II	Hrvatska Elektropriveda	Croatia	1995	26,400	110	400
Cross Island Project II	Hrvatska Elektropriveda	Croatia	1995	100,000	35	3x150
Tecaco Captain	Texaco	United Kingdom	1995	12,530	11	630
Inter Island Project I	Hrvatska Elektropriveda	Croatia	1994	12,000	110	400
Norway	Televerket Norway	Norway	1994	3,850	24	3x25
Dubai	Dubai Electricity	Dubai	1994	450	15	3x150
Tyresö	Tyresö Elverk	Sweden	1994	2,400	12	3x150
Cross Island Project I	Hrvatska Elektropriveda	Croatia	1993	34,200	110	300
Cross Island Project I	Hrvatska Elektropriveda	Croatia	1993	15,800	110	400
Strömstad	Strömstads Energiverk	Sweden	1993	5,450	12	3x150
Cabelte	Electricidade de Portugal	Portugal	1992	2,000	24	3x95
Padre Island	Central Power & Light	USA	1991	40,200	138	380
Kymen	Kymen Laakson Sähkö	Finland	1991	5,100	24	3x35
Portugal	Electricidade de Portugal	Portugal	1991	2,000	24	3x95
Östhammar	Östhammars Energiverk	Sweden	1991	1,350	24	3x150
Dubai	Dubai Electricity	Dubai	1991	500	15	3x50
Shell	Shell Petroleum Co.	Philippines	1991	650	12	3x50
Köpenhamn	Köpenhamns Belysning	Denmark	1990	8,100	36	240
Vasa	Vasa El	Finland	1990	2,100	24	3x95
Seychelles	PUC	Seychelles	1990	9,200	12	3x95
FortF	Fortifikationsförvaltningen	Sweden	1990	6,150	12	3x50
Yngredsfos	Yngredsfors Kraft	Sweden	1990	1,400	12	3x95
Abu Dhabi	ADMA - OPCO	United Arab Emirates	1989	2,700	4	3x50
Umeå	Umeå Energiverk	Sweden	1987	4,200	145	500
Hamilton Island	FNVEB	Australia	1987	10,000	24	3x95
Hamilton Island	FNVEB	Australia	1987	10,000	24	3x120
Hamilton Island	FNVEB	Australia	1987	2,000	24	3x16
Karlskrona	Karlskrona Energiverk	Sweden	1986	20,850	145	500
Umeå	Umeå Energiverk	Sweden	1985	1,350	145	1200
Faeroe Islands	Elektricitets Selskabet	Faeroe Islands	1984	15,000	20	3x70
Nacka-Lidingö	Vattenfall	Sweden	1980	3,400	84	630
Vestmanna Islands	Rarik	Iceland	1978	13,000	36	3x240
Skiensfjorden	Skiensfjorden County	Norway	1976	1,200	145	1000
Fårö	Gotlands Kraftverk	Sweden	1975	12,000	36	630
Göta Älv	Göteborgs Elverk	Sweden	1974	6,000	145	500
Borgå	Sydfinska Kraft	Finland	1974	4,200	123	185
Ume Älv	Umeå Elverk	Sweden	1974	1,650	52	500
Åland	Ålands Kraft	Sweden-Finland	1973	170,000	84	185
Öland	Sydkraft	Sweden	1970	13,300	72	300
			Total:	**2,036,398**	m delivered XLPE cable	

MIND: Mass-Impregnated Non-Draining HVDC cables

BritNed	BritNed Development Ltd	U.K-The Netherlands	2010	508,000	500	1430

Appendix F

Reference list
High voltage submarine cables

Project	Customer	Country	Year	Quantity (m)	Voltage (kV)	Conductor (mm²)
Stora Bält	Energinet.DK	Denmark	2009	33,500	400	1700
Stora Bält	Energinet.DK	Denmark	2009	27,000	400	2000
NorNed	Stattnet/TenneT	Norway-The Netherlands	2007	270,000	450	2x790
NorNed	Stattnet/TenneT	Norway-The Netherlands	2007	303,000	450	700
SwePol Link	SwePol Link AB	Sweden-Poland	1998	259,500	450	2100
Baltic Cable	Baltic Cable AB	Sweden-Germany	1994	243,000	450	1600
Cook Strait	Trans Power	New Zealand	1991	80,600	350	1400
Konti-Skan I:91	Vattenfall	Sweden-Denmark	1991	64,000	285	1200
Fenno-Skan	Vattenfall - IVO	Sweden-Finland	1989	100,000	400	1200
Konti-Skan II	Vattenfall	Sweden-Denmark	1988	66,000	285	1200
Gotland III	Vattenfall	Sweden	1987	97,000	150	800
Gotland II	Vattenfall	Sweden	1983	95,000	150	800
Konti-Skan I:74	Vattenfall	Sweden-Denmark	1974	32,000	285	630
Konit-Skan I:64	Vattenfall	Sweden-Denmark	1964	64,000	285	630
Gotland I	Vattenfall	Sweden	1953	100,000	150	90
			Total:	**2,342,600**		

HVDC Light: Polymeric insulated DC cables

NORD E.ON 1	E.on Netz GmbH	Germany	2009	242,000	150	1200
NORD E.ON 1	E.on Netz GmbH	Germany	2009	16,800	150	1600
NORD E.ON 1	E.on Netz GmbH	Germany	2009	147,200	150	2300
Estlink	Nordic Energy Link	Estonia - Finland	2006	150,000	150	1000
Troll A	Statoil	Norway	2004	284,000	60	300
Troll A	Statoil	Norway	2004	510	60	630
Cross Sound	Transenergieus	United States	2002	1,500	150	630
Cross Sound	Transenergieus	United States	2002	83,240	150	1300
			Total:	**925,250**		

LPOF: Low-Pressure Oil-Filled HVAC cables

Leyte-Cebu	NPC	Philippines	1995	69,000	230	630
Öresund	Sydkraft	Sweden-Denmark	1995	5,200	420	1000
Öresund	Sydkraft	Sweden-Denmark	1984	2,400	420	1000
Öresund	Sydkraft	Sweden-Denmark	1982	1,400	420	1000
Öland	Sydkraft	Sweden	1977	6,000	145	3x300
Prince Edward Island	PEI - NB	Canada	1977	43,000	138	3x240
Öresund	Sydkraft	Sweden-Denmark	1973	34,200	420	1000
Split	Elektroprenos Dalmatia	Yugoslavia	1968	7,600	132	3x95
Öresund	Sydkraft	Sweden-Denmark	1963	5,600	145	3x240

Reference list
High voltage submarine cables

Project	Customer	Country	Year	Quantity (m)	Voltage (kV)	Conductor (mm^2)
Bråviken	Vattenfall	Sweden	1958	5,600	145	400
Öresund	Sydkraft	Sweden-Denmark	1958	5,600	145	3x185
Eskilstuna	Vattenfall	Sweden	1954	600	130	70
			Total:	**186,200**		

State of Rhode Island and Providence Plantations
State House
Providence, Rhode Island 02903-1196
401-222-2080

Donald L. Carcieri
Governor

August 25, 2009

Mr. Paul Rich
Chief Development Officer
Deepwater Wind Rhode Island, LLC
56 Exchange Terrace Suite 101
Providence, RI 02903

Re: Support for Deepwater Wind's Response to National Grid's RFP for a Block Island Wind Farm

Dear Mr. Rich:

I write this letter in support of Deepwater Wind's response to a Request for Proposals from National Grid for an offshore wind farm serving New Shoreham, Rhode Island. As Governor of Rhode Island, I have long been an active promoter of our state's potential as a major source of clean, renewable wind power as well as a potential hub for the future offshore wind industry.

The State of Rhode Island selected Deepwater Wind as its preferred developer of offshore wind through a competitive bidding process in 2008, after a panel of experts from several fields exhaustively evaluated the submissions of seven developers. In January 2009, the State and Deepwater Wind signed a Joint Development Agreement calling for a partnership between the two in the development of potentially two wind farms: one off of the coast of Block Island and a larger wind farm in Rhode Island Sound.

I fully support Deepwater Wind's response to National Grid's RFP and pledge the cooperation of my administration in its development and construction. I believe that Deepwater Wind's proposal is consistent with state policy and represents our best opportunity to lead the nation in the development of offshore wind power. I encourage Deepwater Wind and National Grid to move quickly and cooperatively to develop the Block Island Wind Farm, which is in the best interests of Block Island residents, Rhode Islanders, and our nation as a whole.

Sincerely,

Donald L. Carcieri

Appendix F

TOWN of NEW SHOREHAM
TOWN COUNCIL
OFFICE of FIRST WARDEN KIMBERLEY H. GAFFETT

TELEPHONE (401) 466-3200
FAX (401) 466-3219
TTY (800) 745-5555

August 21, 2009

Madison N. Milhous
Director, Wholesale Market Relations
Energy Portfolio Management
National Grid
100 East Old Country Road
Hicksville, NY 11801

Dear Mr. Milhouse:

I write this letter in connection with Deepwater Wind's response to National Grid's Request for Proposal for an offshore wind farm interconnected to the Town of New Shoreham.

Over the past three years the current Town Council has been very concerned with both the cost and the quality of electricity produced by the local diesel-generated power company. In addition to establishing the Electric Utility Task Group, a Town board to assess issues and options related to electricity generation, the Town Council commissioned The Block Island Wind Survey. The first round of survey results indicates a very high favorability rating for off shore wind development within three miles: 71-84% in support. (The two figures represent two resident groups, i.e. property owners who are not voters, and voters.)

In furtherance of the Town's interest in facilitating the development of affordable, reliable electricity production, the Town of New Shoreham has been discussing with Deepwater Wind their plans to secure a reliable and less costly source of energy for the island. Parallel with these discussions, the Town Council has taken action by unanimously approving several requests by Deepwater Wind for special permits for the installation of monitoring equipment necessary for the development of their planned wind farm of five to eight turbines off of the south-southeast coast of Block Island. In addition, the Town has leased some space to Deepwater Wind for various aspects of their project.

The Town has also been actively engaged, as has Deepwater Wind, in the Rhode Island Coastal Resource Management Council's Special Area Management Plan process that will set parameters regarding the siting of wind farms in Rhode Island state waters.

The Town will continue to stay actively engaged in the proposal for a wind farm serving the Island. The residents of New Shoreham pay some of the highest electricity rates in the United States. We welcome the opportunity to work with Deepwater Wind to find a solution to these high costs and to mitigate the environmental impacts of the diesel power plant that currently serves the island.

Sincerely,

Kimberley Gaffett

P.O. DRAWER 220
BLOCK ISLAND • RHODE ISLAND • 02807

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Michael P. Lewis
Director

Department of Transportation
OFFICE OF THE DIRECTOR
Two Capitol Hill
Providence, R.I. 02903-1124

OFFICE (401) 222-2481
FAX (401) 222-2086
TDD (401) 222-4971

August 19, 2009

Mr. Paul Rich
Chief Development Officer
Deepwater Wind Rhode Island
56 Exchange Terrace, Suite 10 1
Providence, Rhode Island 02903

Re: Property Rights Acquisitions by Deepwater Wind Rhode Island, LLC ("DWW")

Dear Mr. Rich:

This letter confirms that the Rhode Island Department of Transportation ("RIDOT") has participated in planning meetings with DWW regarding DWW's acquisition of property rights from RIDOT in connection with DWW's Block Island Wind Farm Project. RIDOT controls significant portions of the rights of way in the towns of Charlestown and Narragansett and all of the rights of way in the Town of New Shoreham that may be viable transmission corridors for DWW's project.

Consistent with the requirements of the Joint Development Agreement between DWW and the State of Rhode Island, RIDOT is committed to work with DWW to identify transmission corridors and to structure a transfer of appropriate property rights to DWW for any corridor controlled by RIDOT, subject to applicable state and federal laws.

RIDOT looks forward to continue to work with DWW on this most important project.

Sincerely,

Michael P. Lewis
Director

Appendix F

RHODE ISLAND
Economic Development Corporation
315 Iron Horse Way, Suite 101 • Providence, Rhode Island 02908
PHONE: 401-278-9100 • FAX: 401-273-8270 • www.riedc.com

August 26, 2009

Paul Rich
Chief Development Officer
Deepwater Wind Rhode Island, LLC
56 Exchange Terrace Suite 101
Providence, RI 02903

Re: Support for Deepwater Wind's Response to National Grid's RFP for a Block Island Wind Farm

Dear Mr. Rich:

On behalf of the Rhode Island Economic Development Corporation, I write in support of Deepwater Wind's response to a Request for Proposals from National Grid for an offshore wind farm serving New Shoreham, Rhode Island. Deepwater Wind is the preferred developer of offshore wind power in the State of Rhode Island, pursuant to a Joint Development Agreement signed in January 2009 between the State and Deepwater Wind. In addition, Deepwater Wind and the Quonset Development Corporation – which I chair – have also executed a development agreement for more than 100 acres of land at the Quonset Industrial Park to support Deepwater Wind's proposed wind farm operations.

Deepwater Wind and RIEDC have worked cooperatively since January of this year to build the foundation of an offshore wind industry here in Rhode Island. RIEDC has identified renewable energy development, and supply chain location here in Rhode Island, as critical elements of the state's long-term economic development strategy. RIEDC has pledged its support to Deepwater Wind's efforts to develop its planned Block Island Wind Farm. We encourage Deepwater Wind and National Grid to prioritize this project, given its importance to the Rhode Island economy.

Sincerely,

Michael Saul
Interim Executive Director

D E Shaw & Co

39th Floor, Tower 45
120 West Forty-Fifth Street
New York, NY 10036

(212) 478-0000
FAX (212) 478-0100

Appendix 1

August 28, 2009

Madison Milhous
Director, Wholesale Market Relations
Energy Portfolio Management
National Grid
100 East Old Country Road
Hicksville, NY 11801

Re: Deepwater Wind Block Island, LLC

Dear Mr. Milhous:

The D. E. Shaw group is pleased to provide this letter with respect to Deepwater Wind Block Island, LLC's proposal for a 10 MW renewable energy project for Block Island in response to National Grid's request for proposal issued on July 31, 2009. The D. E. Shaw group has extensive experience investing in the renewable energy sector and was attracted to Deepwater Wind Holdings, LLC ("Deepwater Wind"), the parent company and project sponsor of Deepwater Wind Block Island, LLC, by the high-quality leadership of its senior management and its demonstrated ability to develop complex projects such as the proposed wind energy facility off the coast of Block Island (the "Block Island Wind Farm").

The D. E. Shaw group is a global investment and technology development firm with more than 1,700 employees, approximately $29 billion in investment and committed capital as of July 1, 2009, and offices in North America, Europe, and Asia. Since its organization in 1988, the firm has earned an international reputation for financial innovation and technological leadership. The D. E. Shaw group is engaged in a broad spectrum of investment activities in many of the world's capital markets, including debt financing and private equity investing, and has significant experience in the financing and development of power generating assets.

The D. E. Shaw group has committed substantial resources to fund the development of projects by Deepwater Wind and its subsidiaries, subject to the terms and conditions of Deepwater Wind's LLC Agreement. As the owner of 65% of Deepwater Wind's preferred equity, the D. E. Shaw group strongly supports Deepwater Wind's efforts to develop projects such as the Block Island Wind Farm.

We would welcome the opportunity to speak with you or your colleagues regarding the Block Island Wind Farm and the D. E. Shaw group's commitment to Deepwater Wind. If you have any questions, please do not hesitate to contact me at (212) 478-0235.

Sincerely,

Bryan R. Martin
Managing Director

Appendix G

Island voters, homeowners are pro wind farms

by Peter Voskamp
Saturday, August 15, 2009

Block Island voters and homeowners support wind power, including both on- and offshore wind farm installations, according to the results of a Roger Williams University survey.

Dr. Lefteris Pavlides met with Town Council members Wednesday to provide an overview of the survey numbers. He will give a more detailed presentation at the Block Island Residents Association meeting Saturday.

The numbers are of special interest given Deepwater Wind's proposal to install two wind farms near Block Island: a five to eight turbine group three miles off the southeast side of the island, and a much larger farm 15 miles east of the island.

Pavlides explained that the survey targeted two groups: island voters and non-voting homeowners (actually non-voting taxpayers). If someone was both a homeowner and a voter, he or she was counted as a voter.

Surveys were sent to 1,484 voters — everyone on the town's voter list — and 547 were filled out and returned, a response rate of 42.34 percent. (There were 192 that were undeliverable; Pavlides quipped that the survey performed a "public service" by identifying incorrect addresses for future tax bills.)

There were 728 surveys mailed to the remaining non-voting homeowners (tallied from the town's tax roll, said Town Clerk Molly Fitzpatrick), of which 418 responses were returned, or 58 percent — an "astronomical" number, said Pavlides.

As to the million — or perhaps billion — dollar question about prevailing island sentiment in regard to wind farms: 92.8 percent of the voters responded that they supported wind energy in general, as did 86.1 of the homeowners. (5.9 percent of the homeowners did not support wind energy; as did 3.2 of the voters).

And even more telling, 63.3 percent of the voters and 56.4 percent of the homeowners said they would support a wind installation — land-based or offshore — that was visible from their homes, with the proviso that the wind farm be far away enough to be "impossible to hear."

Seven percent of homeowners opposed any installation, as did 6.8 percent of the voters. (For most questions the survey provided choices between support and opposition, such as "neither" or "not sure.")

Similarly, 71.9 percent of the voters and 65.9 of the homeowners would support a land-based wind turbine at the island's transfer station.

Asked if they would support a five to eight turbine wind farm installation within three nautical miles from the island that included a link to the island, 83.9 percent of the voters would support it, as would 71 percent of the homeowners.

"As you can see, you don't have to go far off to get support," said Pavlides.

If a similar farm were proposed with no link to the island, 51.5 of the voters would oppose it, as would 62.4 of the homeowners.

As far as a wind farm at or beyond three miles from the island, 80.2 percent of the voters supported it, as did 76.2 of the voters.

A wind farm located more than 12 miles away was supported by 87.6 percent of voters, and 84.2 percent of homeowners.

The surveys also asked if the respondents would be more likely to support a wind farm if it were part of a network of similar farms, stretching from Cape Hatteras, N.C. to Cape Cod, amounting to some 54,000 turbines, providing for 100 percent of the electricity needs of the East Coast. In response, 63.6 of the voters said they be more inclined to support such a farm, while 56.3 of the non-voting taxpayers did.

In terms of gender, 62.7 percent of the homeowner respondents were male; in the voters category, 48 percent were male; female respondents, correspondingly, made up 37.3 percent of the homeowner respondents and 52 percent of the voter group.

Looking at the largest segments of responders in terms of age range, 25.3 of percent of the homeowners were between 50 and 59; 31 percent between 60 and 69; and 20.6 percent between 70 and 79. For voters, 17.8 percent were between 50 and 59; 29.5 percent between 60 and 69; and 16.6 percent between 70 and 79.

As far as income range, the majority of the voters were listed between $50,000 to $150,000 a year, while the majority of homeowners ranged between $100,000 and $250,000 or more a year (in fact 35 percent of the homeowners were at the highest income level).

Questions

First Warden Kim Gaffett asked if a non-voting taxpayer who owned five different properties on the island received five separate surveys. Pavlides explained that the owner should have received only one.

In the event a single property had a number of owners, a system was devised to give the different owners a percentage of a single vote.

Respondents also provided a range of commentary, Pavlides said, that will eventually become available; for some economics was more important, while the environment was more important for others.

Barbara MacMullan, a member of the town's Electric Utility Task Group, asked if the results were possibly skewed because of the interests of those responding.

Pavlides said the large response indicated to him that the results were not skewed. He pointed out that in a similar wind energy survey he conducted in Bristol he paid each respondent $25, both to encourage participation and to mitigate against extreme positions on the issue.

Bill Wilson wondered what the response would have been had the survey asked if respondents would be willing to pay more to facilitate the installation of a cable or farm.

Second Warden Ray Torrey asked if it would be possible to pinpoint where certain opinions prevailed on the island — for example, what did residents on the south side of the island think?

Pavlides said the names and addresses of respondents, which will soon be destroyed, are already entirely divorced from their actual responses. Meaning, he could map out where all the respondents lived, but not how they voted.

He clarified for Cliff McGinnes Sr. that a "small percentage" of respondents refused to sign the survey release. In these cases, he said a second mailing was sent to them.

Town Councilor Peter Baute, who has been the council's liaison in the effort, explained that in his experience helping tabulate the survey, less than 10 responses out of 100 were returned unsigned.

Pavlides said that in his Bristol survey the respondents with the highest education also gave the highest approval; the results were the same on Block Island.

Pavlides praised Brown University public health graduate student Stephen Kerr for his help crunching the numbers. He said that none of the social sciences are "as nimble or experienced" with statistics as public health, because they conduct studies on a more frequent basis. He also praised Prof. Jeremy Firestone of the University of Delaware for being a trailblazer in the realm of wind farm surveys.

Pavlides said the total cost of the survey was about $10,000, primarily for postage and to pay graduate students. It was paid for with funds left from a state grant looking into wind energy. He offered his thanks to the many island and mainland volunteers who helped facilitate the survey.

http://www.blockislandtimes.com/pages/full_story/push?article-Island+voters-+homeowners+are+pro+wind+farms%20&id=3189403-Island+voters-+homeowners+are+pro+wind+farms&instance=home_news_2nd_left

The Providence Journal
projo.com

Survey says Block Islanders favor wind farm

August 28, 2009

By Alex Kuffner

The results of a survey of nearly 1,000 Block Island homeowners and voters show overwhelming support for construction of a wind farm off the island's coast.

The survey, conducted by professors at Roger Williams University and Brown University, found that 84 percent of registered voters on the island who responded support a wind farm of five to eight turbines 3 miles from the Block Island shore and that 71 percent of nonvoting homeowners feel the same way. A project fitting that description has been proposed by Deepwater Wind, a New Jersey company selected by Rhode Island to develop an offshore wind farm.

The support on Block Island is contingent on the wind farm being connected directly to the island, which relies on diesel generators for power and has some of the highest electricity prices in the nation. The level of support among the two groups plummets to 26 percent and 34 percent, respectively, if there is no direct link.

Under Deepwater's plan, the turbines would be tied into the island electricity grid and a transmission line would run between the island and the mainland, according to company representatives. When the wind is blowing, Block Island would get all of its power from the turbines. Any excess would be fed into the grid that supplies power to the rest of the state.

The Block Island wind farm would be a test project for Deepwater. The company also plans to build a much larger, 100-turbine array in federal waters off Rhode Island.

The survey, commissioned by the New Shoreham Town Council, was directed by Roger Williams architecture Prof. Lefteris Pavlides, a wind-energy proponent, and Annie Gjelsvik, assistant professor of community health at Brown. It was financed by money left over from a grant Pavlides received in 2006 from the state Renewable Energy Fund.

Questionnaires were mailed in March and again in June to the 1,484 registered voters on Block Island and the 728 people who pay property taxes on the island but do not vote there. About 42 percent of the people — 965 in all — responded.

Asked if the results of the survey demonstrate support for wind energy, Pavlides said, "Absolutely."

"Before we didn't know what the support was," he said in an interview this week. "Now, we have numbers."

The survey asked the respondents a series of questions about wind energy and the location of wind turbines. About 9 out of 10 people polled — homeowners and voters — said they support wind energy in general. Just over two-thirds said they support the possible construction of a land-based wind turbine at the island's transfer station.

Support for an offshore wind farm was gauged based on its distance from Block Island. The percentage of those in favor increased as the distance went up. At 3 miles or more, 76 percent of homeowners and 80 percent of voters were in favor. At 12 miles or more, 84 percent of homeowners and 88 percent of voters registered support.

Pavlides presented the survey results to the Town Council Aug. 12 and to the members of the Block Island Residents Association Aug. 15.

He also plans to make a presentation as part of a state-directed ocean-zoning project that will determine the exact locations of the two wind farms Deepwater is proposing. The mapping project, known as the Special Area Management Plan, is being overseen by the Coastal Resources Management Council and is to be completed in August 2010.

http://www.projo.com/news/content/BI_WIND_SURVEY_08-28-09_QHFGOU1_v26.35436c0.html

The Providence Journal
projo.com

Several companies want to be the first to develop an offshore wind farm in the U.S.

Sunday, August 16, 2009

By Alex Kuffner

Paul Rich, Deepwater Wind chief development officer in Rhode Island, stands next to a chart of Block Island. The company has proposed building more than 100 wind turbines offshore.

For months, Rhode Islanders have been hearing sometimes breathless claims from government and business leaders that the Ocean State will have the first offshore wind farm in the nation. Governor Carcieri has led the refrain, repeating his catchphrase, "Spin, baby, spin," at green energy events across the state.

Despite two crucial developments within four days in June, Deepwater Wind, the startup company selected by the state, still has much to do before it can install more than 100 turbines in the ocean off the Rhode Island coast.

With plans moving forward in New Jersey and Delaware — not to mention recent progress in Cape Wind's years-long fight in Massachusetts — it's far from certain that Deepwater and Rhode Island will succeed in their quest to be first.

And make no mistake, being first is important. For the developer, it means more than just bragging rights. It gives the company a leg up on its competitors as it tries to develop additional wind farms elsewhere.

For the state, it means much-needed economic development and valuable green-collar jobs. The thinking is that whichever state has the first offshore wind farm will become home to a lucrative manufacturing industry that will supply similar developments up and down the East Coast.

The stakes are high. The U.S. Department of Energy estimates the wind generation capacity within 50 miles of the United States coastline to be roughly equivalent to the country's total current electrical capacity. About half the potential wind resources are located off the Northeast and mid-Atlantic coasts.

So if even a fraction of those resources are developed, the company that builds offshore first — and the state where it builds — could reap huge benefits.

"The potential is tremendous," said Bonnie Ram, an offshore wind expert based in Washington, D.C., with the energy consulting firm Energetics. "It's a game of who gets in first. Whoever does will get the advantage."

THE RACE to build the first offshore wind farm in the United States had only one competitor until very recently. In 2001, Energy Management Inc., a company headed by Jim Gordon that developed power plants in Pawtucket, Tiverton and elsewhere in New England, came up with a $1.2-billion plan to install 130 wind turbines in federal waters in Nantucket Sound about five miles from shore.

But any head start that project (known as Cape Wind) once enjoyed has been undercut by legal challenges mounted by powerful opponents, including the Kennedy family, who have fought to protect Cape Cod from what they believe is an ill-conceived development that would destroy views and harm the boating industry.

Cape Wind was followed in 2005 by the Long Island Power Authority, which proposed putting 40 turbines within sight of shore. But with cost estimates skyrocketing and opposition growing, the plan was scuttled two years ago.

In 2006, Bluewater Wind, a firm with international backers, proposed the first project in deep waters far from land. The company wants to put at least 55 turbines 12 miles from the coast of Delaware starting in 2012.

And then last September, Deepwater Wind LLC was selected over six other companies to develop a proposal in Rhode Island. Deepwater, based in Hoboken, N.J., actually came up with two projects.

The smaller of them, a wind farm with five to eight turbines in state waters about three miles from Block Island, is on schedule to be up and running in 2012. The second project, a wind farm with 100 turbines in federal waters at least 15 miles from the Rhode Island coast, would follow by 2014.

The company is not just focused on Rhode Island. In June, the federal Minerals Management Service awarded Deepwater two exploratory leases in New Jersey to test offshore wind. Fishermen's Energy, another fledgling venture, also received a lease in New Jersey. Bluewater received leases in both New Jersey and Delaware.

Other states and companies on the East Coast have come forward with rough plans to develop offshore wind. The Long Island Power Authority has come back with a second plan, this time partnering with Con Edison to install more than 160 turbines 13 miles from shore. Maine could begin testing offshore sites in early 2010. The Southern Company, an electric utility, is applying to put up data collection towers off Georgia and Florida. South Carolina plans to start taking measurements using offshore buoys.

EVEN AS OTHERS have entered the race, Cape Wind can still claim to be leading the pack.

In January, Energy Management received a final environmental impact statement from the federal government and expects a Record of Decision, the last step in the permitting process, by the end of August, according to a spokesman. In May, the company received a composite certificate covering all of the state permits it needs.

In a presentation to the local chapter of the Northeast Sustainable Energy Association in July, environmental consultant Chris Rein, who is heading up permitting efforts for Cape Wind, said construction is expected to start in a year.

But new lawsuits have already been filed against Cape Wind. The decision to consolidate the state permits has been appealed by a number of groups, including a regional planning commission and the influential Alliance to Protect Nantucket Sound, which has battled the project from the beginning. Opponents have promised more legal challenges once the federal Record of Decision comes through.

There are also questions surrounding Bluewater. Although last year the company signed a contract with Delmarva Power — the first power purchase agreement in the nation between an electric utility and an offshore wind developer — Bluewater's parent company, Babcock and Brown, of Australia, was forced into bankruptcy by the global recession. Bluewater is working to line up alternative investors.

Bluewater was one of the companies beaten by Deepwater in the competition to develop a proposal in Rhode Island. Erich Stephens, Bluewater's Rhode Island project manager, left the company in the spring to join Offshore MW, a company developing an offshore wind farm in Germany and looking at options in the United States.

And in April, Jim Lanard, Bluewater's director of strategic planning, resigned to become a managing director with Deepwater. A Deepwater spokeswoman said Lanard was recruited by Deepwater and that she knew of no connection between Bluewater's troubles and his departure.

Although Bluewater has encountered problems, Ram, of Energetics, doesn't believe the company will drop out of the race.

"If they go through this process and get their permits, then money will follow," she said.

DEEPWATER'S proposal has steadily progressed over the past 10 months, with more significant moves recently.

On June 26, Governor Carcieri signed into law a bill requiring National Grid, Rhode Island's main electric utility, to negotiate long-term contracts with renewable energy providers. Such contracts are critical for developers to attract financing because they guarantee a buyer for their power.

The signing was followed on June 29 with the approval of a lease agreement between Deepwater and the state agency that manages the Quonset Business Park in North Kingstown. Under the deal, Deepwater would pay the Quonset Development Corporation $20.7 million over 10 years to use 117 acres in the waterfront business park to manufacture and assemble turbine components for its Rhode Island wind farms and possibly other projects.

Both developments were extremely important for Deepwater, said Paul Rich, the company's chief development officer in Rhode Island. However, they're just two steps on a long path to putting turbines in the water.

The immediate concern for Deepwater is reaching a power purchase agreement with National Grid for the Block Island project. As required by the new energy law, the utility must present a proposed contract to the Public Utilities Commission by Oct. 15 for providing renewable energy to the island.

There is greater uncertainty surrounding the more far-reaching portion of the law: a contract of up to 15 years between National Grid and a developer to supply green energy to the state as a whole. The law only sets the framework for such an agreement. It does not put in place an agreement or guarantee that Deepwater will even be a part of it. In fact, there is no requirement in the law that National Grid must even buy power from only Rhode Island projects.

There are some questions that still need to be answered in regard to such long-term contracts before National Grid can seek proposals, according to a company spokesman. When the utility does open the bidding, Deepwater may have to compete for a contract with Cape Wind and other companies.

Deepwater also needs a host of approvals from state and federal agencies. The company, however, will not apply for any permits until the completion of a comprehensive ocean mapping project to select potential sites for wind farms in Rhode Island. The state Coastal Resources Management Council, the project coordinator, expects to finish the Special Area Management Plan, or SAMP, in August 2010.

Immediately afterward, Deepwater will submit an application for the Block Island wind farm — the smaller of its two proposals — to the Army Corps of Engineers, the lead permitting agency for that project. Rich estimates it will take at least six months for the federal agency to review the application. Deepwater has already consulted with the Army Corps to ensure all the information it needs in its application is ready when the SAMP process is done.

Because the proposed 100-turbine wind farm would be located in federal waters, the Minerals Management Service would have primary oversight for the project. Deepwater could send its application to the MMS at the same time it applies to the Army Corps for the Block Island project, but Rich said the company will likely wait.

In the meantime, Deepwater will work on its facility at Quonset Point. It must carry out environmental assessments of the three parcels it will lease in the state-owned business park. At least one parcel could be contaminated and may need to be capped or require some other type of remediation, said Rich. Deepwater may also need to widen roads to ensure enough room for the transport of unwieldy turbine components.

Public reaction to the plan has so far been muted, perhaps because the majority of Deepwater's turbines will be so far offshore that they should be out of sight from nearly anywhere in Rhode Island.

Rich and other Deepwater executives believe that financing their project will not be a problem, even though credit is tight and developing offshore wind is extremely expensive, as much as 70 percent more costly than land-based wind. The proposal is backed by FirstWind, a developer of three land-based wind farms in the United States, and the D.E. Shaw Group, a global investment firm with $29 billion under management.

It's unclear at this early stage how much of the project will be financed through equity and how much will be borrowed, said Jonathan Goldberg, an analyst with D.E. Shaw. In the case of onshore wind farms, one-third of funding typically comes from equity and two-thirds from debt, according to industry experts.

At a meeting of the Quonset Development Corporation's board of directors in June, Deepwater chief executive Chris Wissemann said the company is already in discussions with potential lenders in Europe who have experience with offshore wind projects and is consulting with them to fine-tune his company's plans.

DEEPWATER representatives say the successful construction of their wind farms in Rhode Island will not just benefit their company's fortunes but will also boost the state's sagging economy.

The company's two projects are expected to eventually create 800 jobs at Quonset. Many will be high-paying union positions. Most, though, will only come when the larger project gets under way.

But those jobs could last well beyond the completion of Rhode Island's wind farms. If Deepwater's proposals in New Jersey move forward, they would be staged at Quonset. The company is also exploring options in New York and Maine.

And Rich believes that the specialized structures needed to place turbines in deep waters far off the East Coast, where winds blow stronger than close to shore, will restrict the number of places where other companies can stage their projects.

Offshore turbines in Europe have typically been placed in shallow waters using monopiles, which, as their name suggests, are single steel towers sunk into the ocean bottom. But monopiles are heavy and costly to produce. At greater depths, it is more cost-effective to put turbines on top of latticework jackets, steel structures that are most commonly used in the offshore oil industry.

A 300-ton jacket would be roughly equivalent in height to a 1,000-ton monopile, according to Bill Wall, Deepwater's vice president for marine construction and operations. Deepwater is considering jackets of up to 160 feet in length.

The technology is largely unproven in the wind energy industry. A two-turbine test project 16 miles off the coast of Scotland in 150-foot deep waters is the only wind farm in the world to use jackets.

There is no place on the East Coast of the United States where jackets are built. If Deepwater starts building them at Quonset, it would make sense for other companies to use its facilities, said Rich.

Quonset could then become a hub for the manufacture, assembly and transport of turbines between Maine and Delaware. It could be, in Rich's words, the "Silicon Valley of offshore wind."

That is what the state is counting on. Andrew Dzykewicz, the state's former energy commissioner, said the offshore wind industry could generate several thousand jobs in Rhode Island over time. Siemens, one of the two leading companies in the world that make offshore turbines, has talked to state officials about coming to Rhode Island.

"People smarter than me say this is a $50-billion industry," he said. "Being out front on this can't be anything but good."

BUT BEING FIRST may not be everything.

The offshore wind race isn't a zero-sum contest, said Laurie Jodziewicz, the manager of siting policy at the American Wind Energy Association, an industry group.

Just because one company is successful doesn't mean others' plans will be derailed. It also doesn't mean that other states will be excluded from growth in the industry.

Jodziewicz said that if offshore wind is anything like the land-based sector, many different manufacturing centers will spring up. Because of the high cost of transporting turbines, it would make sense to build them close to where they will be installed.

Mark Rodgers, spokesman for Cape Wind, said that because of the proximity between Massachusetts and Rhode Island, both states will benefit from either of their projects. Energy Management had considered staging the Cape Wind project at Quonset Point. More recently, the company moved its focus to the Port of Providence and New Bedford. Rodgers sees the competition as regional — New England versus the Mid-Atlantic.

"That's where the first-in-the-nation argument gets a little blurred," he said. "The benefits will spread."

And there's more than enough room in the ocean for many projects, said Rob Propes, Bluewater's Delaware project director.

"This is just the beginning," he said. "We expect multiple wind farms off the coasts of multiple states."

Rich said it will take more than one project to convince manufacturers, banks and insurers — all based in Europe, where the offshore wind industry is thriving — to open factories or offices in the United States.

He points to the setbacks suffered by Cape Wind over the past eight years, saying that project's misfortunes scared Europeans who want to do business across the Atlantic. More than one project must succeed to convince them that the time is right for offshore wind in America, Rich said.

But that doesn't mean Deepwater underestimates the importance of being first.

" Rich said. "What it says to the outside world is, 'We're serious and we're successful,'

And what if Deepwater loses the race?

That wouldn't change the company's plans to be a major player in the offshore wind industry, Rich said.

"But," he quickly added, "we wouldn't like to be behind anyone else."

akuffner@projo.com

http://www.projo.com/news/content/OFFSHORE_WIND_RACE_08-16-09_EBF0D97_v106.33863bd.html

The Providence Journal
projo.com

Why not R.I., why not Quonset

Sunday, August 16, 2009

NORTH KINGSTOWN — I hiked the new bike path along the northern lip of the Quonset Business Park during a summer break to get some exercise and think about where Rhode Island has been and where it is headed.

I ran into pedestrians, bicyclists and roller bladers on the 2.5-mile route that winds through wildflowers, woodlands and salt marshes. The path also opens to vistas of the quiet Allens Harbor and a hidden nature preserve before ending at a secluded waterfront.

What interested me even more, however, was the area's history.

Looking over the embankment that lines the early part of the trail, I saw glimpses of the Quonset huts at the Seabees' museum, the Davisville pier where Navy ships once docked and the rail lines that move freight to big industrial companies.

I wondered what comes to mind for the people on the trail when they think about Quonset. Many may recall the pullout of the Navy 35 years ago, the failed, contentious plans to build a deepwater cargo container port, or any of the now-abandoned ideas to stimulate the economy and create jobs.

All that's in the past.

I hope the new path gives people who use it a chance to think about the future of Rhode Island and Quonset's role in building a new economy. The unique, 3,160-acre tract on Narragansett Bay remains one of the state's most valuable assets whose full potential has still not been tapped.

Sure, Quonset has made strides over the years. There are now 164 companies there with 8,800 workers. There's an impressive new Gateway complex with new stores.

Still, those improvements don't separate Quonset from other industrial parks on the East Coast.

Quonset can fulfill its potential by forging a stronger link between Rhode Island and the world's economy. The tighter the connection between Rhode Island and out-of-state markets, the better chance for the state and its residents to prosper.

One idea offered by Kevin Dillon, president of the Rhode Island Airport Corporation, is to increase cargo traffic at the air strip at the Quonset airport. The runway and terminal there will need upgrading to attract more flights from United Parcel Service and Federal Express. But look at the benefits as Rhode Island competes with other states.

Dillon pointed out that T.F. Green, the state's primary airport, handles 30 million pounds of cargo while Boston-Manchester Regional Airport, where he used to work, handles 200 million pounds.

"There's an opportunity here for us," he said, adding the plan would support the state's manufacturers and transportation network and create jobs.

Another idea being promoted by the federal government is short-sea shipping to move more freight up and down the Eastern seaboard by barge or small container ships rather than trucks on congested highways.

Quonset's proximity to shipping lanes in the Atlantic Ocean could make it a candidate for short-sea shipping. The concept is not the deep-water, big-box cargo container port that was so politically divisive 10 years ago, but a more modest site that could provide jobs and connect Rhode Island to trade routes.

The best vision for linking Quonset to world markets involves the race to build the first offshore wind farm on the East Coast. (See Alex Kuffner's story on A1). Rhode Island has picked a developer, Deepwater Wind, to set up turbines off the state's coast. The New Jersey-based company has signed an agreement to lease land at Quonset for a facility that will manufacture the foundations to support the wind turbines. Paul M. Rich, chief development officer, said the plant could eventually employ 800 welders, assemblers and other workmen.

That's a good boost in a state that has suffered through a lengthy blue-collar recession that has killed off manufacturers and small machine shops where many worked.

Rich also said that most of the design and development of wind turbines still occurs overseas. If the United States can develop an offshore wind power industry, then the big manufacturers could be lured to Quonset for their East Coast operations. Those sites could attract well-paying jobs for engineers and others skilled in math and science to support a knowledge-based technology economy. Quonset could also be a staging area for turbines shipped to other states.

That would make Quonset a hub of the wind power industry. It would bring investment here from outside the state and provide jobs for all levels of workers. It could be compatible with nearby neighborhoods, and not set off the protests that other plans have.

And it's not a pie in the sky. Some state on the East Coast will build the first offshore wind farm, and derive the benefits.

Why not Rhode Island? Why not at Quonset?

Then, the next generation who walks the path on the perimeter of Quonset could witness the development of a new economy, and not focus on past failures, or what Quonset once was.

The walkers could think about Rhode Island's place in the world economy. They could talk about Quonset as a place where friends and relatives work. They could boast about Rhode Island as a place that attracts people, not drives them away.

The $1.34-million bike path was financed by the Quonset Development Corporation and the Rhode Island Department of Transportation. Learn more about Rhode Island's bike paths at www.dot.ri.gov/bikeri/areamaps.asp

http://www.projo.com/business/johnkostrzewa/John_Kostrzewa_Column0816_08-16-09_OJFCF2O_v16.26a5fcd.html

Buoyed by new law, wind farm plans advance

by Chris Barrett
July 4, 2009

Gov. Donald Carcieri signs legislation last week that creates a guaranteed market for electricity produced by two wind farms proposed for off the coast of Block Island. Wind farm developer Deepwater Wind called the legislation critical to the development of the farms. Next to him is Mike Ryan of National Grid. Behind them are Rep. Laurence W. Ehrhardt (R-North Kingstown) and Rep. Deborah L. Ruggiero (D-Jamestown, Middletown). Photo courtesy of Duffy & Shanley

The developer of two proposed wind farms off the coast of Block Island scored a major victory on June 26 when the governor signed legislation creating a guaranteed market for its electricity.

Developer Deepwater Wind called the measure critical to moving forward with its projects that, if completed, would become the first offshore wind farms in the United States. But the privately financed farms come at a massive cost — at least $1.5 billion — and would sell electricity at above-market rates. The new law requires National Grid, the state's dominant electricity distributor, to purchase Deepwater's electricity. In return, National Grid is allowed to collect a profit from customers equal to 2.75 percent of its annual contract with Deepwater.

Three days after the governor signed the law, the Quonset Development Corp. approved a lease with Deepwater for 117 acres at the Quonset Business Park. Deepwater plans to use three separate parcels there to stage offshore wind projects.

On Tuesday, Deepwater Wind Chief Operating Officer Chris Wissemann said last week's signing quickly bumped the company into the execution phase of its projects.

"That was a big relief," he said. "That was essentially what we call the opening gate to really starting the business. And without that, we could not have proceeded, frankly, with the Quonset lease. So that was the catalyst to let everyone know how serious Rhode Island is about capturing that opportunity."

Deepwater foresees one wind farm with about 100 turbines about 15 miles to the east of Block Island. The other farm, with five to eight turbines, would sit about three miles off the southeast coast of Block Island and include a tie-in to the island as well as an electric cable from the mainland. Deepwater officials hope to have the smaller farm operational by 2011 and the larger one running a few years later.

Deepwater officials envision selling electricity to National Grid, which would then sell it to the Block Island Power Co. Each entity would be allowed to add on a profit, with National Grid being required to charge BIPCo — and by extension island customers — higher rates than mainland customers.

That provision soothed concerns from some lawmakers who worried that mainland electric customers would subsidize the cost of an electric cable between the island and the mainland. But even with the extra charge, island customers can expect to pay "way, way, way less" than the 68 cents a kilowatt-hour rates they paid last summer, said Deepwater's Wissemann. The state Public Utilities Commission would oversee the contracts that establish the rates ultimately paid by customers.

BIPCo Chief Operating Officer Cliff McGinnes said the company planned to meet with representatives from National Grid, Deepwater and New England ISO, the region's electric grid, to iron out the details of transmitting the electricity. Until then, McGinnes said he could not speculate the final price of electricity.

Also unclear is who will own the cable between the island and mainland. National Grid Deputy General Counsel Ronald Gerwatowski told a Senate committee last month that the company is "interested" in owning the cable, which he estimated would cost $20 million to build. Wissemann said such an ownership structure would make sense, but Deepwater is working with National Grid to "figure out what's the most logical arrangement."

The thought of a cable carrying cheap electricity to the island brightened the spirits of the four BIPCo owners. McGinnes said the four have been worried the price of the oil necessary for the company's generators would spike as it did last summer. BIPCo also wants to avoid the $550,000 to $750,000 cost of replacing its underground storage tanks in 2015.

"Couldn't be anybody more pleased than the four owners," McGinnes said about last week's bill signing.

If the farms and cable become a reality, it would shift BIPCo from an electricity generator and distributor solely to a distributor.

A similar change occurred on Nantucket after National Grid connected the island with an electricity cable. The owners of the island power company then sold the business to National Grid. McGinnes would not explicitly rule out a sale of BIPCo to National Grid, but called it highly unlikely.

"I don't know why National Grid would want to buy the power company — not enough customers. But who knows, it might serve some other function," he said.

For now, BIPCo owners were celebrating the passage of the legislation that took two years of negotiations to become law. The governor initially balked at similar legislation last year, saying that National Grid did not deserve an extra profit for buying electricity from renewable energy sources. He vetoed the bill.

But this year the Gov. Donald Carcieri praised the bill. His spokeswoman said this year's bill afforded customers more protections than last year's legislation. In a news release, Carcieri called the legislation crucial to meeting his goal of generating 20 percent of the state's electricity from renewable energy sources.

"This legislation, championed by [Majority] Leader [Gordon] Fox in the House, sends a strong signal that Rhode Island is serious about renewable energy," he said. "We have the natural resources, a willing and able work force, and now with this legislation, we have the regulatory environment to encourage development. Our state is now in the position to be a national leader in this industry."

Deepwater tempted lawmakers to pass the bill with the promise of creating up to 800 jobs at Quonset and making the Ocean State the hub of "green" manufacturing. Labor union leaders signed up to urge legislators to send the bill to the governor, and Deepwater hired lobbyist Robert Goldberg to argue its case.

In the House, Fox spearheaded the passage of the bill, while in the Senate, Deepwater found a friend in Sen. Susan Sosnowski, who represents the island and chaired the environmental committee that sent the bill to the floor.

Speaker of the House William Murphy called the passage of the legislation "one of the most significant accomplishments of the legislative session," according to a news release.

Carcieri signed this bill during the Green Economy Roundtable in Warwick hosted by the Rhode Island Economic Development Corp.

http://www.blockislandtimes.com/pages/full_story/push?article-Buoyed+by+new+law-+wind+farm+plans+advance-+&id=2882578-Buoyed+by+new+law-+wind+farm+plans+advance-&instance=home_news_1st_right

The Providence Journal
projo.com

QDC OKs 10-year leases for Deepwater

June 30, 2009 - By Alex Kuffner

NORTH KINGSTOWN — Deepwater Wind has agreed to lease 117 acres in the Quonset Business Park to use as a staging area for its $1.5-billion proposal to install more than 100 wind turbines off the Rhode Island coast.

The board of directors of the Quonset Development Corporation on Monday voted unanimously in favor of an agreement giving the New Jersey company 10-year leases on three parcels in the state-owned business park. It is the second major development for the project in the last five days after Governor Carcieri on Friday signed into law legislation crucial to clean energy in Rhode Island.

"This development agreement marks a major milestone in the state's march toward the development of offshore wind projects, and positions Rhode Island as the epicenter for renewable energy on the East Coast," the governor said in a statement.

The deal with the QDC has been expected for months. One reason the governor selected Deepwater last fall to develop wind farms in Rhode Island was the startup company's willingness to set up an assembly facility in Quonset Point staffed by up to 800 employees.

In May, the QDC announced that it had signed a letter of intent with Deepwater for the leases. Monday's action by the board formalizes that agreement. The deal is contingent on Deepwater securing financing and obtaining all the necessary federal and state permits for its project, a process that will take years. In the meantime, the company will pay the QDC annual fees to reserve the land. The payment for the first year is $100,000 and will increase to $150,000 in the second year and $325,000 in the third.

The three parcels, two inland and one waterfront, will be used for the transport and assembly of the five to eight turbines that will be installed by 2012 three miles from Block Island and the 100 turbines that will eventually be placed at least 15 miles from land.

Deepwater will pay the QDC $1.9 million annually in rent over the first five years of the lease and $2.2 million a year over the second five years. The company will have two successive five-year options to extend the lease. Rent would increase if the company takes up those options.

Deepwater may have to widen roads in the park to accommodate the large components it will be transporting. The agreement stipulates that the company would pay for that work. In addition, the agreement says the company would be penalized if it failed to create at least 500 jobs.

Steven J. King, managing director of the QDC, said at the meeting that it will not be long before work on Deepwater's facility in the business park begins. "Within two years, you're going to see a lot of activity," he told the board.

State officials believe the construction of Deepwater's facility could be the first step in creating a hub for the offshore wind industry on the East Coast. Deepwater, along with two other companies, has been given permission to develop proposals in New Jersey and Delaware. The firm is also looking at plans off the New York coast.

Deepwater executives say that if their projects pan out, they would be staged at Quonset Point. They also say the project could attract manufacturers of turbine components that would supply industry. Both General Electric and Siemens, global companies with divisions that manufacture wind turbines, have talked to state officials about coming to Rhode Island.

On Friday, Governor Carcieri signed legislation that allows electrical utility National Grid to enter into long-term contracts to purchase power from renewable energy producers. Deepwater executives say they need such a contract to show private investors that they have a guaranteed buyer for their energy. Without the contract, it would be extremely difficult for the company to raise additional money to supplement its equity financing.

Those present at the QDC meeting Monday said that the signings of the lease agreement and the new legislation are major developments for offshore wind in Rhode Island. "It's a national coup is what it is," board member John G. Laramee said to Deepwater chief executive Chris Wissemann and other company representatives who were in attendance.

http://www.projo.com/news/content/BZ_DEEPWATER_LEASES_06-30-09_JTESQRM_v21.32a6740.html

Table of Contents

Proposal for Cable System

SECTION 1: PROJECT SUMMARY AND CONTACT INFORMATION

1.1 Contact Information

Bidder Name:	Deepwater Wind Block Island Transmission, LLC___________
Project Name:	Block Island Transmission Project
Technology[1]:	Submarine cable (serving an eligible renewable energy resource)
Estimated Commercial Operation Date:	Q3 2012
Products Bid (Energy and/or REC, Energy, RECs and Capacity):	Energy, RECs, and capacity
Project Site/Location: City or Town:	ROW between New Shoreham, RI and Narragansett, RI_
Proposed Interconnection Point:	Wakefield, RI_
Proposed Point of Delivery:	ISO-NE
Cable System Description	
Cable Type(s):	Submarine XLPE
Voltage and Rating:	Up to 69kV 300 kcmil
Interconnection Points:	Typical switchyard pothead
Project Contact	
Name:	Paul Rich
Address:	56 Exchange Terrace, Suite 100 Providence, RI 02903
Phone Number:	401-648-0606
Email Address:	prich@dwwind.com
Facsimile Number:	401-633-6553

[1]The technology must qualify as an eligible renewable energy resource under Section 5 of the Rules and Regulations governing the Implementation of a Renewable Energy Standard, effective July 25, 2007, promulgated under R.I.G.L. §39-26-5.

1.2 Project Summary

Deepwater Wind Block Island Transmission, LLC ("DWBT") proposes to build, own and transfer a bi-directional submarine transmission system ("Transmission Project") of up to a 69kV rating interconnecting the Block Island Power Company ("BIPCo") with National Grid's wholesale transmission system on the mainland, in conjunction with the proposed development of Deepwater Wind Block Island, LLC's ("DWBI") Block Island Wind Farm project (the "Generation Project" or the "Wind Farm"), as described in the proposal titled the "*Block Island Wind Farm*", submitted to National Grid by DWBI on August 31, 2009.

DWBI and DWBT are both wholly owned subsidiaries of Deepwater Rhode Island, LLC. Deepwater Rhode Island, LLC is a wholly owned subsidiary of Deepwater Holdings, LLC ("Deepwater"). Deepwater is currently owned by:

- An entity of the D. E. Shaw group;
- First Wind Holdings, LLC;
- An entity of the Ospraie Group; and
- An entity of Paragon Capital.

DWBT anticipates building, owning and transferring the Transmission Project to National Grid upon the commencement of its commercial operations. While DWBT has invested significantly in preparing a feasible conceptual design, DWBT looks forward to working with National Grid to identify opportunities both to optimize the mainland interconnection location and reduce the Transmission Project's impacts on Rhode Island's ratepayers.

1.1.1 GENERAL ARRANGEMENT

DWBT's proposed Transmission Project consists of up to three major components: a Transmission Cable and possibly as many as two substations ("Transmission Substation" and "Mainland Substation"), at either ends of the Transmission Cable, depending on final determination of the mainland interconnection point in cooperation with National Grid.

The general arrangement of wind power delivery from DWBI's proposed Wind Project through DWBT's proposed Transmission Project is as follows:

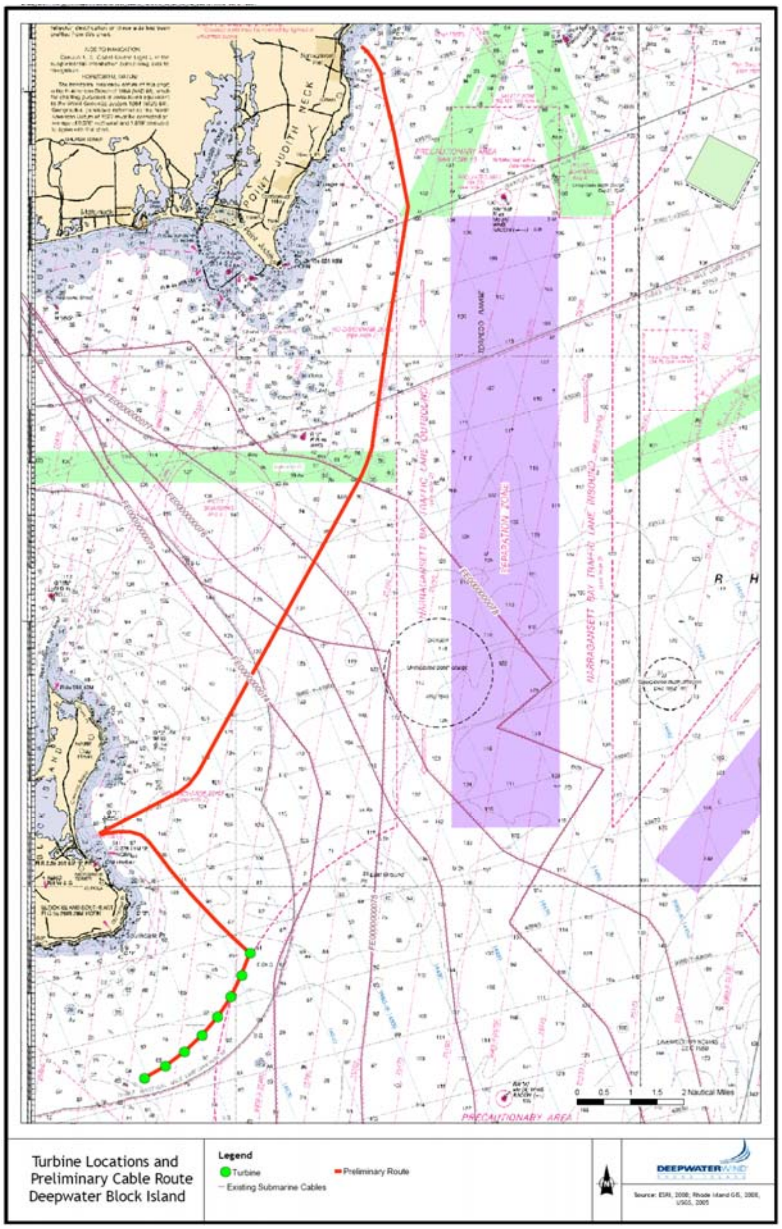
- A 33 kV submarine cable system connecting DWBI's Wind Turbine Generators in a radial configuration (the " Inter-Array Cable") feed into its 33 kV submarine cable (the "Export Cable"), which connects to the delivery point substation on Block Island (the "Generation Substation");.
- The Generation Substation will interconnect with BIPCO via a three-winding 33 kV to 34.5 kV step-up transformer, to allow for BIPCO's local distribution of power. BIPCO will then be connected to the Transmission Cable via the Transmission Substation.
- The Transmission Cable will then provide power to the mainland by interconnecting at a point to be determined cooperatively between National Grid and DWBT.

As currently filed for interconnection with ISO-NE, the interconnection point would be at National Grid's Feeder 3302 near Wakefield, RI and would require a 69kV to 34.5kV step-down transformer (the "Mainland Substation"). It is possible, however, that through joint system evaluation efforts of National Grid and DWBT that an interconnection point could be identified on the mainland that would entirely eliminate the need for the Mainland Substation.

This Transmission System will enable balancing power to flow from the mainland to Block Island during periods when the Block Island Wind Farm produces less power than BIPCo requires for serving its load. The Transmission System will also enable the export of excess power to the mainland during periods when the Wind Farm produces more power than BIPCo requires for serving its load.

Figure 1-1 below shows the general arrangement of the Generation Project and the Transmission Project. The Transmission project consists of The Transmission Substation, the Transmission Cable and the Mainland Substation. The Wind Farm includes the wind turbine generators, the Inter-Array Cable, the Export Cable, and Generation Substation, as proposed by DWBI via its Block Island Wind Farm project (the "Generation Project" or the "Wind Farm"), as described in its "Proposal *for the Development of the Block Island Wind Farm*", submitted to National Grid.

Figure 1-1: Generation Project and Transmission Project General Arrangement



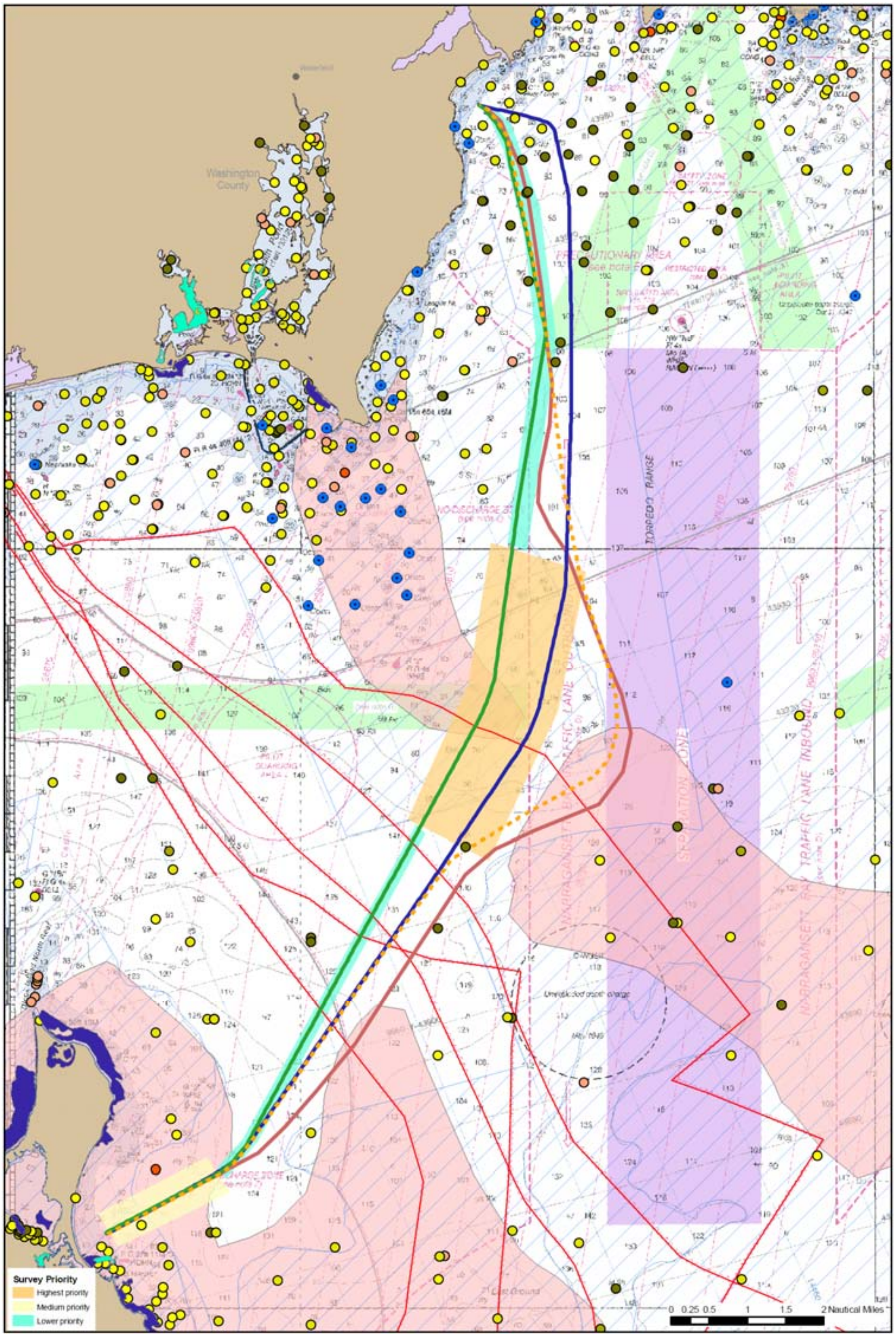
Preliminary Cable Routes

DWBT has developed the following preliminary cable routes. On the mainland, the Transmission Project has filed for interconnection with National Grid's Feeder 3302 near National Grid's Wakefield substation, as shown in *Figure 1-2* below. From the point of interconnection, the cable will be buried along a State-owned road in a route leading to a horizontal directional drilling ("HDD") location near Narragansett Beach.

Figure 1-2: Mainland Interconnection

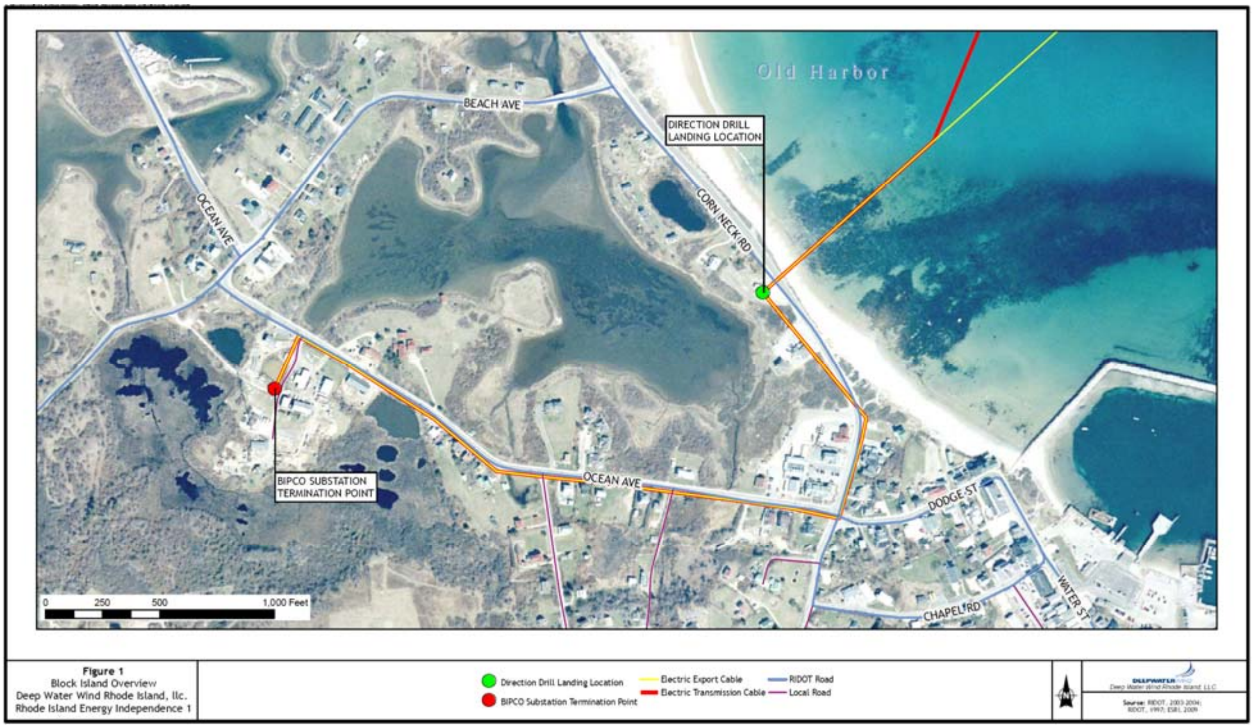
For the Offshore portion of the Transmission Cable, DWBT has evaluated a number of potential routes, based on minimization of (i) cable route distance, (ii) marine navigation and (iii) environmental impacts. *Figure 1-3* below shows the alternative routes DWBT evaluated, and continues to evaluate, for the Transmission Project.

Figure 1-3: Transmission Cable Route Alternatives



On Block Island, the Transmission Cable and the Export Cable will make landfall at the same location, near the town-owned beach. The cables follow State-owned roads to the BIPCo plant, where they will connect with the Transmission Substation and the Generator Substation, respectively. *Figure 1-4* below shows the cable route on Block Island.

Figure 1-4: Block Island Cable Route



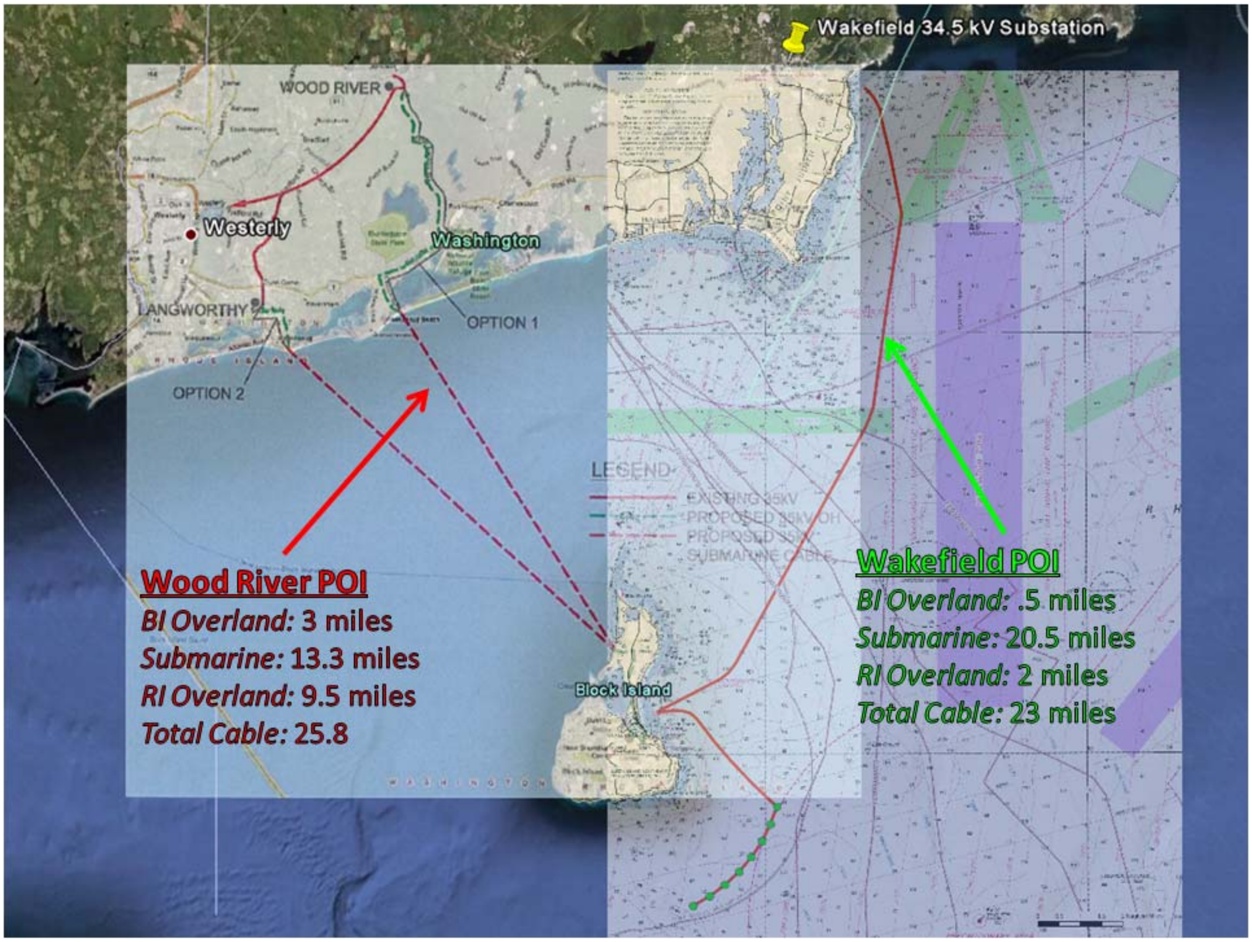
Alternative Points of Interconnection

DWBT has evaluated alternatives for the interconnection of the Transmission Project, and is prepared to continue to evaluate other alternatives. *Figure 1-5* below shows the three primary interconnection locations evaluated by DWBT. DWBT has been in dialog with National Grid since November 2008 and has evaluated alternatives for the Mainland Interconnection. In January, DWBT with its subcontractor, Careba Mott MacDonald ("Careba"), identified three options for 34.5 interconnections in southern Rhode Island, as shown in *Figure 1-5* below. First, DWBT evaluated interconnecting at the Langworthy 34.5 kV substation. Site investigations by DWBT and Careba found that the Langworthy substation is at the very end of a radial 34.5 kV feeder, which has many single-phase taps. Although the substation is relatively proximate to the shore, it was deemed a reliability concern and thus not considered at that time for further analysis.

Next, DWBT and Careba evaluated the Wood River 115 kV substation. While Wood River seems to have adequate capacity to support the project, the substation is physically over 9.5 miles from the shoreline and could be expensive to build.

Last, DWBT evaluated intercepting National Grid's Feeder 3302 near National Grid's Wakefield 34.5 kV substation, which was recommended by National Grid staff as having sufficient capacity for injection. DWBT identified an interconnection location less than 2 miles from the shore and subsequently filed for interconnection using this point in the system.

Figure 1-5: Potential Points of Interconnection



The Wood River interconnection location would require nearly 26 total miles of cable, compared to 23 miles for the Wakefield interconnection location. More importantly, the Wood River interconnection will require 12.5 miles of overland cable, compared to less than 2.5 for the Wakefield interconnection. Further, the Wood River interconnection may require permits from three separate localities (Quononchontaug, Charleston, and Wood River Junction) depending on final routing specifcs, as opposed to one at the Wakefield interconnection (Narragansett).

Based on this effort, DWBI has identified an interconnection location on National Grid's Feeder 3302 near National Grid's Wakefield substation as the most cost-effective POI. While DWBI believes that this POI is the most cost effective, we would be happy to discuss other options with National Grid in an effort to minimize ratepayer impacts.

SECTION 2: PRICING

The cost of the Transmission System is ***not*** included in the energy supply cost bid in the RFP Response.

As discussed in National Grid's "Responses to Questions From August 10th Pre-Bid Meeting," the requirement for a transmission cable to connect the Town of New Shoreham Renewable Project to the mainland grid is somewhat unusual: this bi-directional facility will be both indispensable to the Renewable Project, by providing a link to National Grid, and indispensable to the Block Island Power Company, by providing access to the ISO-NE wholesale power market.

As such, DWBT agrees that development of the Transmission Project needs to be treated separately from the development of the Wind Farm. In particular, as discussed below, DWBT proposes to develop, finance and construct the Transmission Project on a build, own and transfer ("BOAT") basis, and to transfer it at completion to National Grid.

Furthermore, National Grid also acknowledged in dialogue following the Pre-bid Conference, that to the extent Federal Energy Regulatory Commission ("FERC") licensing of the Transmission Project is required that either National Grid or ISO-NE will undertake this activity. This will help ensure the most efficient transfer of asset ownership at date of commercial operation.

Based on DWBT's development of this facility to date, its estimated cost of construction will be between $25-30 million (see *Figure 2-1*). However, until such time as the interconnection studies have been completed and the siting of the Transmission Project has been finalized along with related electrical matters, a fixed-priced bid to build this cable facility is inappropriate at this time.

Instead, DWBT proposes to work collaboratively with National Grid to determine the most cost-effective route, and electrically optimal interconnection location, for this facility. DWBT also proposes to enter into an agreement with National Grid defining the terms by which DWBT will develop, finance and construct the Transmission Project and transfer to National Grid upon commercial operation. Additionally, DWBT proposes that should a FERC filing be required, it would be made by ISO-NE and/or National Grid, not DWBT.

The transfer price is to include:

- a management fee for DWBT;
- interest on financing during construction, if any;
- return on Deepwater 's equity (if any) used to fund construction; but,
- no development fee.

Figure 2-1: Transmission Project Budget

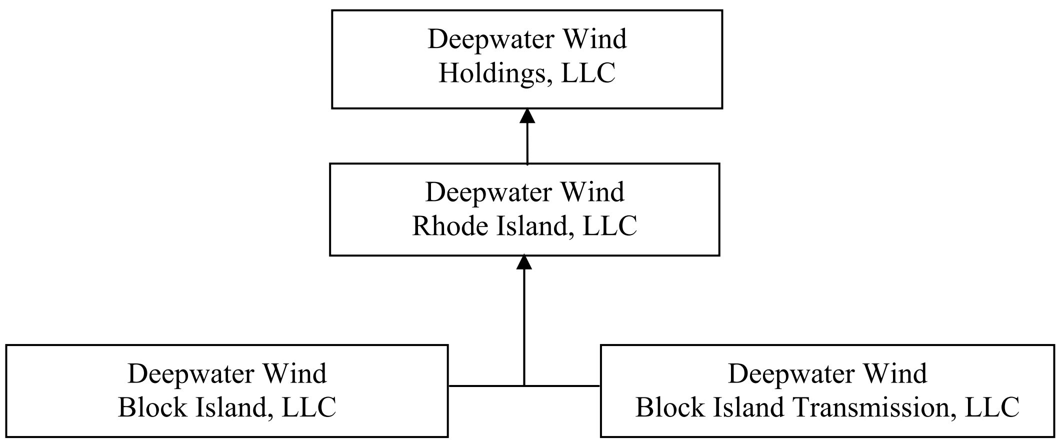
DWBT Preliminary Budget Estimate	
Offshore Cable Supply and Installation	$26.4
Onshore Cable Supply and Installation	$4.3
Substation Supply and Installation	$4.3
Permitting & Site Control	$0.9
Interconnection (Studies and Upgrades)	$0.9
	$36.6

SECTION 3: FINANCING PLAN

3.1 Corporate Structure

DWBT was formed as a Delaware limited liability company by filing a certificate of formation with the Secretary of State of Delaware on August 24, 2009. The ultimate parent of DWBT within the Deepwater Company Group is Deepwater Wind Holdings, LLC ("Deepwater"), a Delaware limited liability corporation.

Figure 3-1: Deepwater Wind Organizational Chart



Deepwater's investment and development expertise will support all aspects of the Transmission Project's development, finance, and construction.

The membership interests in Deepwater are owned by:

- An entity of the D. E. Shaw group;
- First Wind Holdings, LLC;
- An entity of the Ospraie Group;
- An entity of Paragon Capital; and,
- Management.

The D. E. Shaw group is a global investment and technology development firm with more than 1,700 employees; approximately $29 billion in investment and committed capital as of July 1, 2009; and offices in North America, Europe, and Asia. Since its organization in 1988, the firm has earned an international reputation for financial innovation and technological leadership. The D. E. Shaw group is engaged in a broad spectrum of investment activities, including direct capital and private equity activities and has significant recent experience in the financing and development of power generating assets.

First Wind Holdings, LLC, a significant minority investor in Deepwater, is an independent North American wind energy company focused exclusively on the development, ownership and operation of wind energy projects since 2002. Currently, First Wind is focused on developing wind energy projects in the northeastern and western regions of the continental U.S. and in Hawaii. First Wind employs 179 professionals in eight states and has a depth of expertise in project development areas such as wind project development, generator lead expansion, meteorology, engineering, permitting, construction, finance, law, asset management, maintenance, and operations. First Wind also has direct experience within current and targeted markets in dealing with land control issues, establishing stakeholder relationships, managing meteorological programs, conducting community initiatives, and developing transmission solutions.

Ospraie is an investment management firm focused on creating unique, research-driven investment solutions in basic industry and commodity sectors. Ospraie Special Opportunities Fund has over $1 billion in assets under management. Ospraie Special Opportunities Fund seeks high total returns through strategic acquisitions of differentiated assets in under-addressed areas of the basic industry and commodity sectors. Leveraging Ospraie's proprietary network of relationships, the fund targets investments that feature value-added fundamentals and operating partners. Ospraie's broad experience in commodities, basic industries and the overall financial markets position the fund to effectively source, manage and realize its investments.

Paragon Energy Holdings, LLC, formed in 2003, provides advisory services to investors in the energy sector, including commercial restructuring, pricing, and buy/sell side advisory services. In addition, Paragon originates and manages principal energy investments, providing investment level management and oversight, contract restructuring, operational/budget controls, commodity risk management, and financing, analytical, and development resources. The current portfolio of energy assets managed by Paragon is valued at over $350 million. Paragon's affiliate, CP Energy Group, LLC, is a leading financial advisory firm serving investors and sponsors in renewable energy.

3.2 Credit Ratings

Not applicable.

3.3 Financial Plan

Deepwater believes that the Transmission Project is financially viable and that DWBT can access sufficient capital to satisfy the equity required to construct the Project. Deepwater's principals, together with Deepwater's sponsors and affiliates, have the requisite experience to raise additional capital for well-developed projects with attractive risk/return profiles and are well positioned to draw on that expertise to arrange the financing for the Transmission Project.

Alternatively, however, as it may cost less to complete the Transmission Project if National Grid provides construction financing, Deepwater proposes to discuss this option with National Grid as part of the structuring of any BOAT agreement between Deepwater and National Grid.

Deepwater and National Grid should work together to identify the lowest cost method of funding the construction of the Transmission Project. The Transmission Project's development costs will be met through equity contributions made by Deepwater's existing sponsors; and the Project's construction costs will be met through a combination of construction debt, and equity supplied either by Deepwater or National Grid, in amounts to be determined.

The Transmission Project's development costs will be met through equity contributions made by Deepwater's existing sponsors; and the Project's construction costs will be met through a combination of construction debt, and equity supplied either by Deepwater or National Grid, in amounts to be determined.

The Transmission Project's development costs will be met through equity contributions made by Deepwater's existing sponsors; and the Project's construction costs will be met through a combination of construction debt and equity supplied either by Deepwater or National Grid, in amounts to be determined.

The preliminary total budgetary cost estimate of Transmission Project is $36.6mm. Please refer to *Figure 2-1* for a breakout of specific cost line items.

The Transmission Project's development costs will be met through equity contributions made by Deepwater's existing sponsors; and the Transmission Project's construction costs will be met through a combination of construction debt and equity supplied either by Deepwater or National Grid, in amounts to be determined.

Apart from the ownership arrangement described above, no other agreements are in place with respect to equity ownership in the Transmission Project, or any other financing arrangement. As financing arrangements will not be finalized until the Transmission Project is ready to commence construction, no material conditions precedent are pending at this time.

3.4 Financing Experience

DWW believes that the Project is financially viable and that DWBI can access sufficient capital to satisfy the equity requirements of the Project. DWBI's principals, together with Deepwater's sponsors and affiliates, have the requisite experience to raise additional capital for well-developed projects with attractive risk/return profiles and are well positioned to draw on that expertise to arrange the financing for the Generation Project.

As described above, Deepwater's principals, together with Deepwater's sponsors and affiliates, have had extensive experience securing financing for power projects in general, and wind energy projects in particular.

As just one example of the extensive, and relevant experience of Deepwater's sponsors: First Wind Holdings, LLC, had as of August 31, 2009, 274 MW of operating wind energy project capacity and another 204 MW under construction. First Wind's 204 MW Milford I, which will be the largest wind energy project in Utah, is being interconnected via a 90-mile long, 345 kV, 1000 MW-rated transmission line that First Wind itself is developing, financing and constructing. First Wind is jointly owned by the D. E. Shaw group, Madison Dearborn Partners and First Wind management. It has successfully raised in excess of $2 billion of capital to build its five current operating projects, including a $376 million construction financing for its Milford I project in the difficult financing markets of early 2009. DWBT will have at its disposal First Wind's technical, development, and commercial financing expertise.

3.5 Financing Capability

Deepwater believes that the Transmission Project is financially viable and that DWBT can access sufficient capital to satisfy the equity requirements of the Project. Deepwater's principals, together with Deepwater's sponsors and affiliates, have the requisite experience to raise additional capital for well-developed projects with attractive risk/return profiles and are well positioned to draw on that expertise to arrange the financing for the Transmission Project.

3.6 Financial Statements

Provide copies of the most recent audited financial statement or annual report for each Bidder, including all parents of the Bidder. DWBT does not prepare audited financial statements. The most recent audited financial statements for Deepwater Wind Holdings, LLC are attached as *Appendix B*.

3.7 Financial Security Plan

Not applicable.

3.8 Credit Issues

Not applicable.

3.9 Tax Incentives

Not applicable.

3.10 Legal Issues

Not applicable.

SECTION 4: ENVIRONMENTAL ASSESSMENT AND PERMIT ACQUISITION PLAN

4.1 Permits, Authorizations, and Approvals

The DWBT team has developed a robust environmental assessment and permit acquisition plan. By partnering with the Rhode Island Ocean Special Area Management Plan ("SAMP") program, DWBT will obtain a broad set of data for use in characterizing environmental issues in and around the Project site. Under the SAMP, the Rhode Island Coastal Resource Management Council ("CRMC") is working to define use zones for Rhode Island's ocean waters through a research and planning process that integrates the best available science with open public input and involvement. These use zones are intended to protect or enhance current uses, including habitat and commercial and recreational uses, while providing for future uses, such as renewable energy development.

DWBT will complement the SAMP data by undertaking a series of site specific studies that will provide insights into the baseline environmental conditions at the site. DWBT will also, in conjunction with the participating agencies, develop a risk assessment methodology for use in determining the Project's environmental impacts.

A list of all the permits, licenses, and environmental assessments (EAs)/environmental impact statements (EISs) required for the project along with the applicable governmental agencies is provided below in *Figure 4-1*.

Figure 4-1. List of Required Permits, Licenses, and EAs/EISs

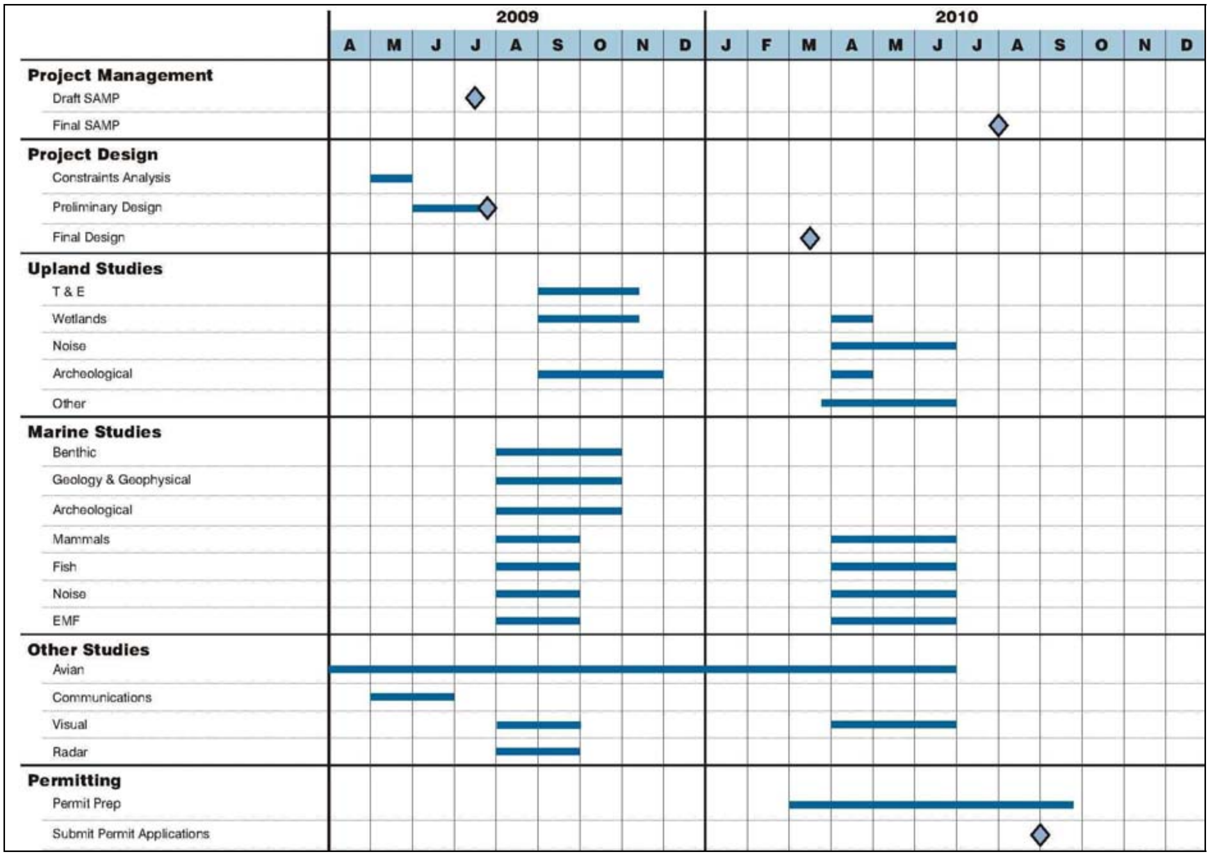
Permit or Approval	Regulatory Authority
Federal	
Right-of-Way Grant	Minerals Management Service (MMS)
Section 10	United States Army Corps of Engineers (USACE)
Environmental Assessment – NEPA Review	Federal Lead Agency MMS/USACE
Essential Fish Habitat Consultation and T&E (Section 7 of the ESA, Magnuson-Stevens Act and Marine Mammals protection Act) Consultation	National Marine Fisheries Service (NMFS)
T&E (Section 7 of the ESA)) Consultation	United States Fish and Wildlife Service (USFWS)/ NMFS
Cultural Resources (Section 106 NHPA)	Tribes/Rhode Island Natural History Survey
Determination of no hazard to vessel traffic and Approval for private aid to navigation	United States Coast Guard (USCG)
Conformity Determination/Air Emissions Permit	United States Environmental Protection Agency (USEPA)
Notice of Proposed Construction or Alteration	Federal Aviation Administration (FAA)

Transmission License	Federal Energy Regulatory Commission (FERC)
Rhode Island – State	
State Assent	Rhode Island Coastal Resources Management Council (CRMC)
Marine Dredging Permit	CRMC
Coastal Consistency Determination	CRMC
Lease/License of Offshore Land	CRMC
Coastal and Freshwater Wetlands Permit	CRMC
Determination of Consistency with WQM Plan	CRMC
Section 106 Consultation	Rhode Island Natural History Survey
Rhode Island - Local	
Storm water Pollution Prevention Plan Approval	County and/or municipal departments and agencies in New Shoreham, Wakefield, Narragansett Beach, and Washington County
Temporary Dewatering Permit	
County Engineering Approval	
Tree Removal Approval	
Temporary Fencing Approval	
Local Site Plan Approval	
Zoning Certificates or Variances	
Engineering Release	
Construction Permits	

4.2 Permitting Timeline

The critical path for the Transmission Project is the project permitting schedule, which is dependent on the timely and complete development of the SAMP, which is scheduled to be finalized in August 2010. Project permit applications are scheduled to be submitted in September 2010 after the SAMP has been officially registered as complete. An anticipated timeline for seeking and receiving all the required permits and approvals as outlined in *Figure 4-1* is shown in *Figure 4.2*.

Figure 4-2: Anticipated Permitting Timeline



DWBT is coordinating with the SAMP and already participated in pre-filing consultation conferences with the major state and federal permitting agencies, CRMC and US Army Corps of Engineers ("USACE"), and National Marine Fisheries Service ("NMFS") and US Fish and Wildlife Service ("USFWS") to define the scope of site-specific desktop and field studies that will be required to assess the baseline conditions and potential impacts resulting from the construction of the Transmission Project and obtain the necessary permits and approvals to begin construction. As shown on the attached schedule, visual, avian, radar, and marine studies are currently underway. Upland studies for T&E species, wetlands, and cultural resources are scheduled to begin in the fall of 2009. All environmental studies are scheduled to be completed by June 2010.

The site-specific studies conducted by DWBT will be combined with results from the studies being conducted for development of the SAMP. CRMC is leading the SAMP effort with the support of the University of Rhode Island (URI). Federal agencies such as MMS and the USACE, which have authority in federal waters, will participate, as will state agencies including the R.I. Department of Environmental Management ("RIDEM"). As part of the SAMP process, the CRMC is working to define offshore energy zones by collecting information related to sensitive resources and habitats, as well as potential marine and safety hazards. The SAMP preparation process is expected to be completed by August 2010.

The actual preparation of Transmission Project permit applications will begin in early 2010 with expected submission of the applications upon official registration of the SAMP in September 2010. The issuance of the necessary permits is expected to be relatively quick as a result of close coordination with the regulatory agencies throughout the permitting process. The Transmission Project is scheduled to begin construction in spring 2011 and is expected to be operational by 2012.

DWBT is also working with National Grid and the towns of Narragansett and Block Island to develop preliminary upland transmission routes and to identify substation locations. As construction and engineering designs for the onshore portions of the project are finalized, the requirements for local permits and approvals will become clearer. At this stage, DWBT expects approvals to be required under the applicable Municipal Land Use Laws, and other municipal and county ordinances. The locations of the various alternative project configurations proposed could require approvals from New Shoreham, Wakefield, Narragansett Beach, and Washington County, Rhode Island. Local permits and approvals to be required for the final Transmission Project configuration will be identified after the preferred project configuration is verified.

4.3 Preliminary Environmental Assessment

As stated previously, the results of the SAMP studies will be combined with desktop and field data collected by DWBT for use in the NEPA analyses for the Transmission Project. Some of the information collected by the SAMP team will also be used to run specific models based on DWBT's proposed project, i.e., scour analysis of the turbine foundations..

DWBT has developed a work plans to conduct site-specific marine surveys, based on meetings and other interactions with NMFS and CRMC. The work plans are intended to complement the SAMP and other current knowledge of existing marine resources in the Transmission Project area by providing the level of site-specific data and analyses necessary to satisfy all state and federal environmental requirements. Specifically, DWBT's objectives for the work plans include:

1) Determining the presence of Essential Fish Habitat (EFH) in the Project Area and performing an assessment of EFH that may be affected by the Project;
2) Evaluating the presence and abundance of eelgrass in the shoreline areas where cable installation will occur to determine if eelgrass beds will be affected by the Project;
3) Characterizing the benthic communities in the Project Area to determine what impacts project construction, operation, and decommissioning may have on this resource; and
4) Performing additional impact evaluations including scour analysis, construction noise assessment, and EMF modeling of the cable to determine if these project related activities will result in marine resource impacts.

DWBT also submitted a work plan to USFWS proposing avian and bat studies and initiated data collection activities. The objectives of the avian and bat work plan are to:

1) Determine the general species composition of the avian and bat communities during both the summer/winter residency and spring/fall migration periods;
2) Estimate the overall relative abundance of the avian and bat communities within the Project Area as well as the relative abundance of recognized species groups;
3) Identify both the spatial and temporal distribution patterns of the avian and bat communities with the Project Area; and

4) Identify and evaluate the spatial and temporal use of the Project Area by both state and federal rare, threatened, and endangered (RTE) bird and bat species.

Work plans are currently being prepared to assess cultural and visual resources, marine and freshwater wetlands, marine mammals, air quality, and recreational and commercial fishing impacts. These studies are expected to be initiated in the fall of 2009. All surveys results will be included as part of the NEPA documentation for the Project along with proposed mitigation measures for any expected environment impacts. A preliminary assessment of environmental impacts based on existing information is provided below.

4.3.1 SITE DEVELOPMENT

This section provides a preliminary assessment of potential impacts to different resource areas as result of site development. No significant impacts on coastal habitats are expected during construction or operation of the Transmission Project. The project has been designed to avoid, minimize, or mitigate impacts on eel grass, coastal and freshwater wetlands and seal haul-out areas. If impacts on any coastal habitats are identified mitigation measures will be developed.

No significant impacts on seafloor features are expected. Transmission Project facilities have been sited outside of sensitive seafloor habitats (e.g., hard-bottom areas). Any disturbance to the seafloor of this area is expected to recover quickly to original contours after construction. Any disturbance to the soils or geology of the land-based section will be returned to original grade. Seafloor habitats along the transmission corridor are also expected to recover quickly, shortly after submarine cable installation.

4.3.2 TRANSPORTATION INFRASTRUCTURE

No significant impacts to vessel or land-based traffic in the Transmission Project Area are expected. Minimal impacts may occur from staging and construction. Land-based traffic impacts will be limited to the period when the HDD is connected to the landfall and the connection to the substation. Based on the short distance involved, no significant impacts are expected. A Traffic and Transportation Plan will be developed to avoid project-related traffic during land-based transmission line construction.

4.3.3 AIR QUALITY

Construction activities will primarily result in localized increases in air emissions associated with installation vessels working on the Transmission Cable.

4.3.4 WATER RESOURCES AND WATER QUALITY

No significant long-term impacts on the ocean surface, currents, or sediment resources are expected to occur. Marine construction of the Transmission Project will result in short-term impacts on water quality due to temporary disturbance to sediments along the installation route of the Transmission Project. Mitigation measures such as reducing the speed of the cable-laying vessel or reducing water pressure of the embedment tool can be contemplated as ways to possibly help minimize disruption during these activities. Based on the relatively short construction season, and the relatively small size of the Transmission Project, this potential is expected to be negligible.

The nearshore portion of the cable line will tie into the on-shore portion via a horizontal directional drilling (HDD) in order to minimize impacts to sensitive near-shore resources.

Negligible impacts on sediment are expected, based on the relatively small footprint of work activities and the short duration of disturbance. Based on the strong currents along the majority of the transmission line route, similar sediments and contours to baseline conditions are expected shortly after burial of the cable line. Therefore, no significant impacts are expected.

4.3.5 BIOLOGICAL RESOURCES (AQUATIC AND TERRESTRIAL)

Bird and Bat Species

There is a potential for adverse impacts on avian and bat species during the construction of the project. Extensive studies are being conducted to characterize avian and bat activities in the project vicinity. Construction impacts are expected to be limited to temporary disturbance to foraging or from construction activities in the immediate vicinity of the Project. Foraging flight paths may be altered, which may result in additional energetic stress on shorebirds. Results of the bird and bat studies will provide additional insight regarding construction-related impacts.

Marine Mammals

There can be expected to be increased noise associated with the cable-laying ship. Significant impacts could occur if marine mammals are permanently displaced from the Project Area. However, permanent displacement is not expected based on the relatively small size of the proposed project, the relatively short duration of construction-related disturbances, and the timing of the construction window.

No significant adverse impacts are expected to marine mammals during installation of the Transmission Cable. Based on the short-term duration of construction activities and the chosen, proven technology of installation methods, potential impacts on marine mammals are expected to be negligible.

Sea Turtles

Similar to marine mammals, there are no expected adverse impacts sea turtles associated with the construction or operation of the Transmission Project, particularly during construction activities. Permanent displacement is not expected based on the relatively small size of the proposed project, the chosen proven technology for installation and the relatively short duration of construction-related disturbances.

Fish and Essential Fish Habitat

No significant impacts on fish resources or EFH are expected to result from the Transmission Project, however, it may be necessary to restrict in water construction activities during certain seasons. Based on the short duration of construction activities and the expected rapid recovery of the seafloor to pre-construction contours, potential adverse impacts are expected to be insignificant.

4.3.6 LAND USE

No significant impacts to local land use are expected. Impacts from construction will be minimal and temporary. Port facilities will not need to be expanded to accommodate the transportation of facility components. Onshore construction to tie electrical production to the grid will have a negligible impact on the area. All new transmission lines will be installed underground. New electrical substations will be required on Block Island and the mainland. Efforts will be made to locate these substations away from residential and recreational areas.

4.3.7 CULTURAL RESOURCES

Potential impacts on cultural resources are insignificant because the Transmission Project is almost entirely located underground and thus concerns shall be likely limited to potential marine archeological items of interest within the Transmission Cable corridor.

4.3.8 NOISE LEVEL

The potential for noise-related adverse impacts on various resources including fish, marine mammals and sea turtles resulting from the Project is discussed above. Potential adverse impacts associated with changes to baseline noise conditions during construction of the Transmission Cable will be quantified in the EA. Any resultant changes of construction techniques on the acoustical environment will be determined and appropriate avoidance and minimization measures will be developed.

4.3.9 AESTHETICS / VISUAL RESOURCES

Potential adverse impacts associated with the construction and operation of the proposed Project will be limited to the time during which the cable-laying vessel is present and the construction activities surrounding the installation of the HDD and cable splicing. Appropriate avoidance and minimization will be developed, as necessary, to mitigate for those potential affects.

4.3.10 TRANSMISSION INFRASTRUCTURE

The Project will make landfall at Town Beach on Block Island and then follow Corn Neck Road south to Ocean Avenue terminating at the BIPCo substation. The roads are owned by Rhode Island Department of Transportation ("RIDOT"). The upland cable route will follow the existing RIDOT right-of-way ("ROW"). All cables will be installed aboveground on the BIPCo property, including the cable from offshore and all substation connecting cables.

Subject to selection of the final interconnection location, the second landfall as presently filed with ISO-NE will occur at Narragansett Town Beach on the mainland and follow Route 1 to the location of a new substation where the cable route ties into the existing bike path (see attached map entitled Narragansett Beach Detail). RIDOT owns Route 1 and the cable route will follow the existing ROW.

4.3.11 FUEL SUPPLY ACCESS

N/A

4.4 Public Support

Public support for the Transmission Project has been strong. *Appendix F* is a compilation of letters of support from various public officials in the region, demonstrating the level of enthusiasm and encouragement for the Transmission Project. Another level of support is demonstrated in *Appendix G*, a compilation of news stories regarding the project. A recent story included for review reports of a recent survey conducted by the Town of New Shoreham, indicating a high level of public support for the Transmission Project.

SECTION 5: ENGINEERING AND TECHNOLOGY

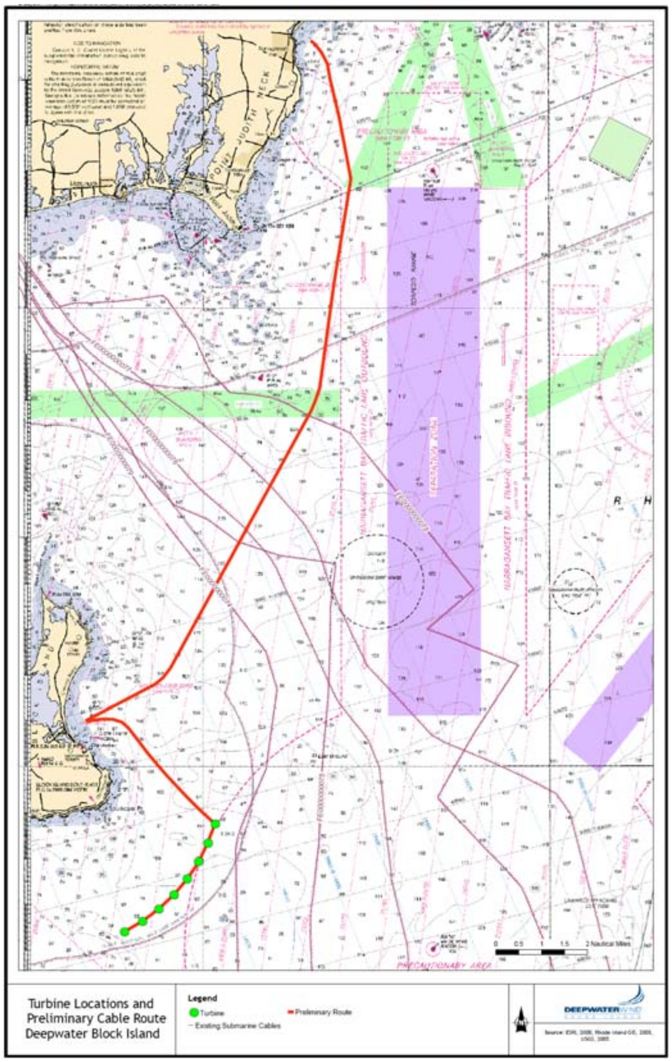
DWBT has developed a conceptual design for the Transmission Project which will allow power to flow from the Block Island Wind Farm both to Block Island and to the mainland. Additionally, the Transmission Project will allow power to flow from the mainland to Block Island in the event the Block Island Wind Farm is producing less power than BIPCo needs. Although DWBT's conceptual design for the Transmission Project is in an advanced state of development, DWW proposes to work collaboratively with National Grid to evaluate alternative designs, or alternative cable routes, which may be more ideal for system reliability and cost-effective for National Grid's ratepayers.

DWBT has coordinated with National Grid and BIPCo staff to identify points of interconnection and is currently working, as well, with the RI Department of Transportation, and local jurisdictions, to determine feasible rights-of-way for the Transmission Project. Further, DWBT has recently submitted an interconnection request to ISO-NE and anticipates commencing a feasibility study shortly.

5.1 General Arrangement

Further to Section 1 above, *Figure 5-1* below shows the general arrangement of the Transmission Project, as currently proposed by DWBT.

Figure 5-1: Wind Farm and Transmission Project General Arrangement



5.2 Site Control and Rights-of-Way

The Transmission Project will require multiple forms of site control and rights of way on Block Island, offshore and on the Rhode Island mainland. DWBT has engaged Ecology and Environment ("E&E"), AECOM Environment ("AECOM") and Careba to assist with the identification, qualification and acquisition of the required site control and rights of way. Additionally, DWBT and our consultants have begun consultations with RIDOT, the Town of New Shoreham and (at a preliminary level) with the Town of Narragansett regarding the necessary site control and permitting requirements for their jurisdictions.

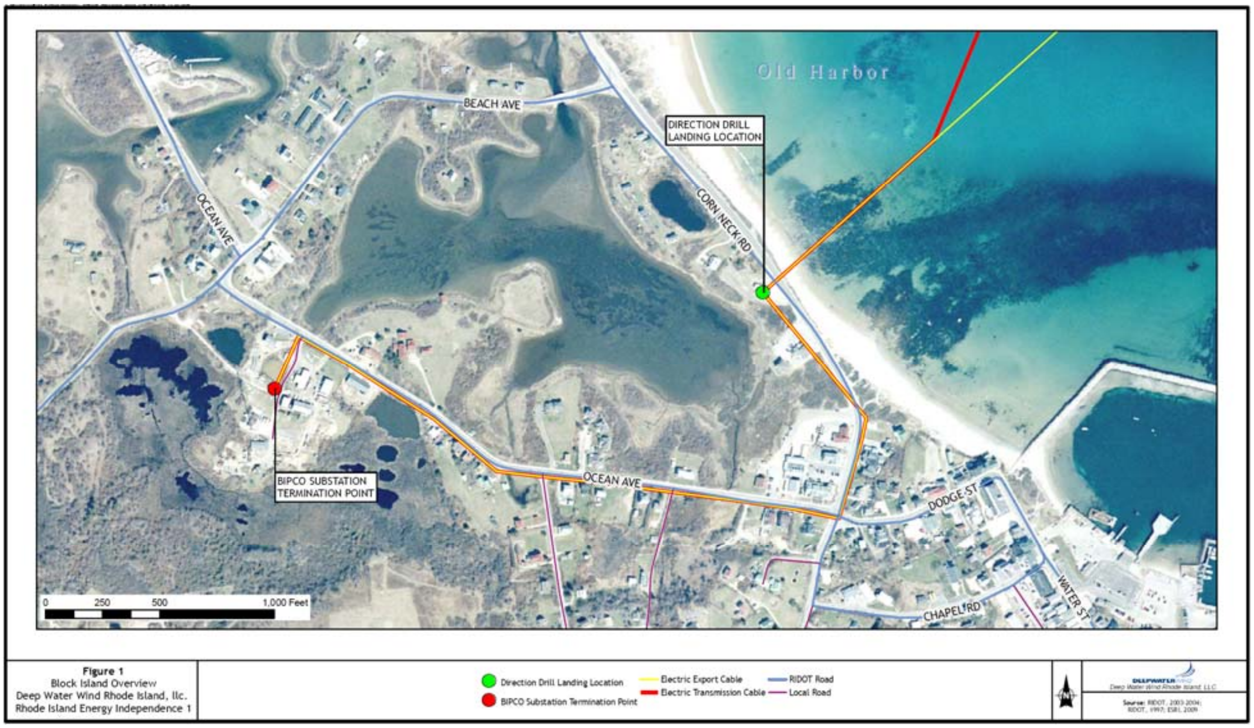
5.2.1 BLOCK ISLAND

DWBT is currently working to identify and secure site control for the following:

1. Horizontal Directional Drilling ("HDD") for cable landfalls;
2. Cable Junction Box (same location as HDD) which connects the offshore portion of the Transmission Cable with its upland counterpart;
3. Transmission Substation; and
4. Upland portions of the Transmission Cable.

Based on DWBT and AECOM's preliminary investigations, *Figure 5-2* below shows the current general arrangement of the Transmission Project on Block Island. This design is subject to change based on further engineering.

Figure 5-2: Block Island Interconnection Point



Preliminary discussions have confirmed that RIDOT owns the major roads on Block Island and that RIDOT is willing to provide a long-term easement to the Transmission Project for the use of the necessary roadways on Block Island as a right-of-way. DWBT is currently discussing application and permitting requirements with RIDOT. DWBT anticipates the RIDOT easement issuance will require a consultation with RIDEM, and DWBT is preparing for such consultation.

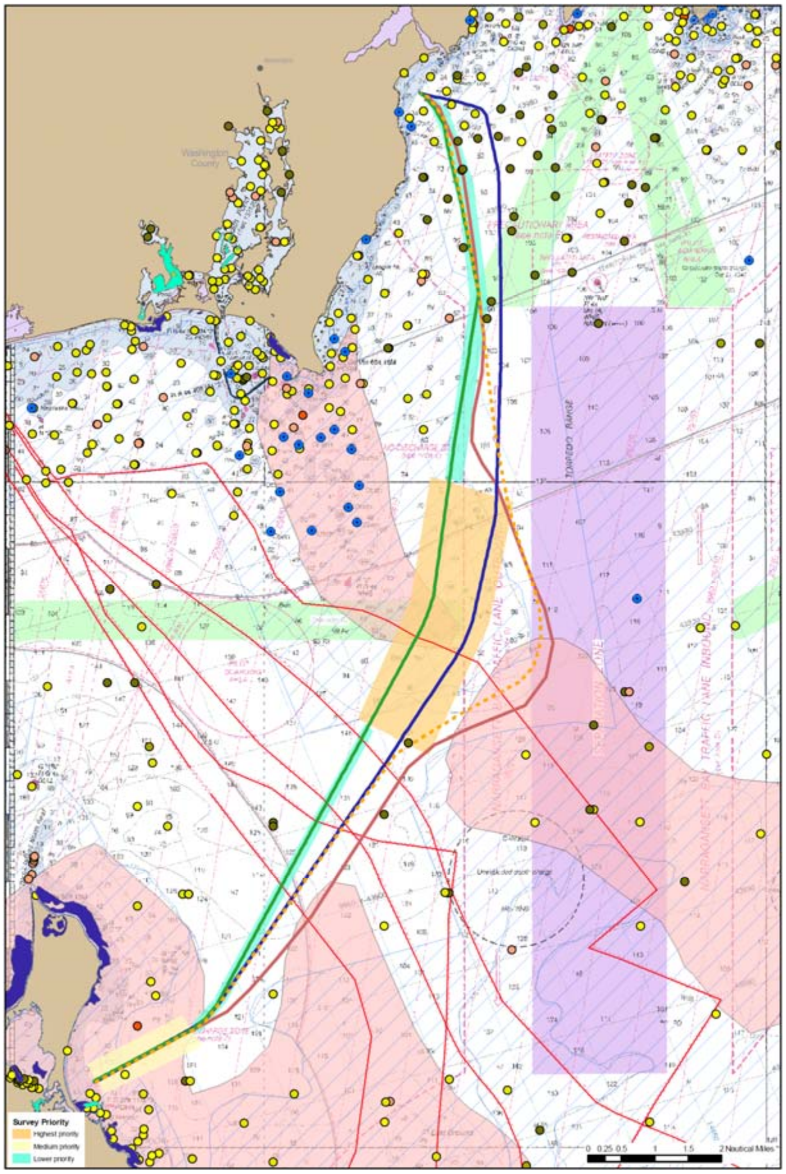
The Town of New Shoreham owns the beach location where the HDD and junction box are currently contemplated. DWBT is also in discussions with the Town of New Shoreham regarding application and permitting requirements. DWBT anticipates CRMC review will be required and is preparing the necessary documentation.

BIPCo owns the land where DWBT anticipates installing the Transmission Substation. DWBT, AECOM, Careba and BIPCo are evaluating the siting and configuration of the Transmission Substation on BIPCo's property. DWBT and BIPCo have begun initial discussions regarding the acquisition of the necessary land. DWBT anticipates discussing such siting and configuration with National Grid, as part of the interconnection feasibility study. Town and RIDEM permits will be required for the construction of the Transmission Substation and DWBT has begun researching the baseline conditions at the site.

5.2.2 OFFSHORE

The offshore portion of the Transmission Cable will require both Federal and State rights-of-way.

Figure 5-3: Offshore Siting



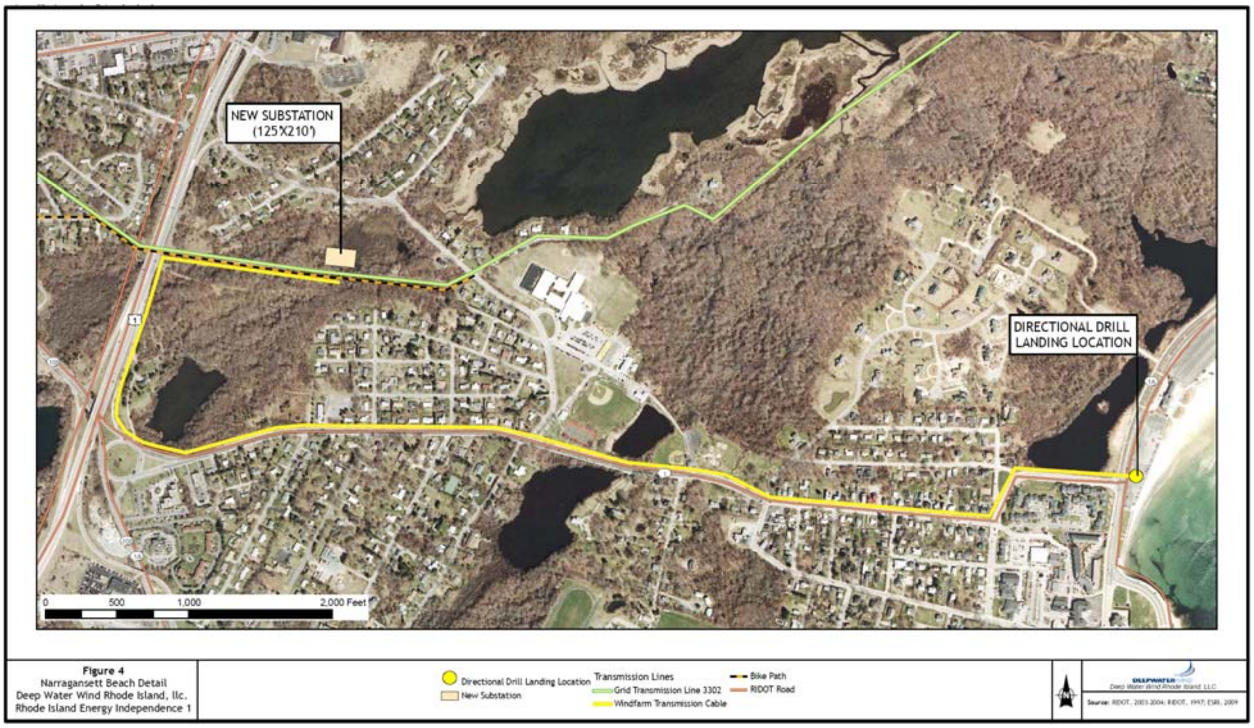
The Federally-jurisdictional portions of the Transmission Cable will require a right-of-way grant from the MMS. DWBT has begun discussions with the MMS regarding application and permitting requirements. DWBT and E&E have evaluated multiple potential routes for the Federal portion of the Transmission Project, as shown in *Figure 5-3* above.

ROW's for the State-jurisdictional portions of the Transmission Cable (i.e. those which are within three nautical miles of the Block Island and mainland landfalls) are within the jurisdiction of the CRMC. DWBT is currently in discussions with the CRMC regarding the requirements of a right-of-way easement. DWBT anticipates that such a right-of-way will be issued concurrently with the permits for the project. Construction of the Transmission Project will also require an Army Corps permit of which pre-application consultations with the Army Corps have already begun.

5.2.3 MAINLAND

On the mainland, the construction of the Transmission Project will require short-term site control for the HDD rig, as well as, long-term site control for the buried junction box (at the same site as the HDD rig) and for the Mainland Substation. Additionally, DWBT will need to obtain a right-of-way for the portion of the Transmission Cable which runs from the HDD / junction box site to the substations. *Figure 5-4* below shows the current route of the upland portion of the cable on the mainland as filed with ISO-NE, based on consultations with RIDOT, as well as the preferred HDD and substation sites, based upon AECOM's evaluation. It should be noted that the proposed preferred route is wholly owned by RIDOT and is available for the siting of the upland portion of the Transmission Cable.

Figure 5-4: Mainland Siting



5.3 Interconnection Studies

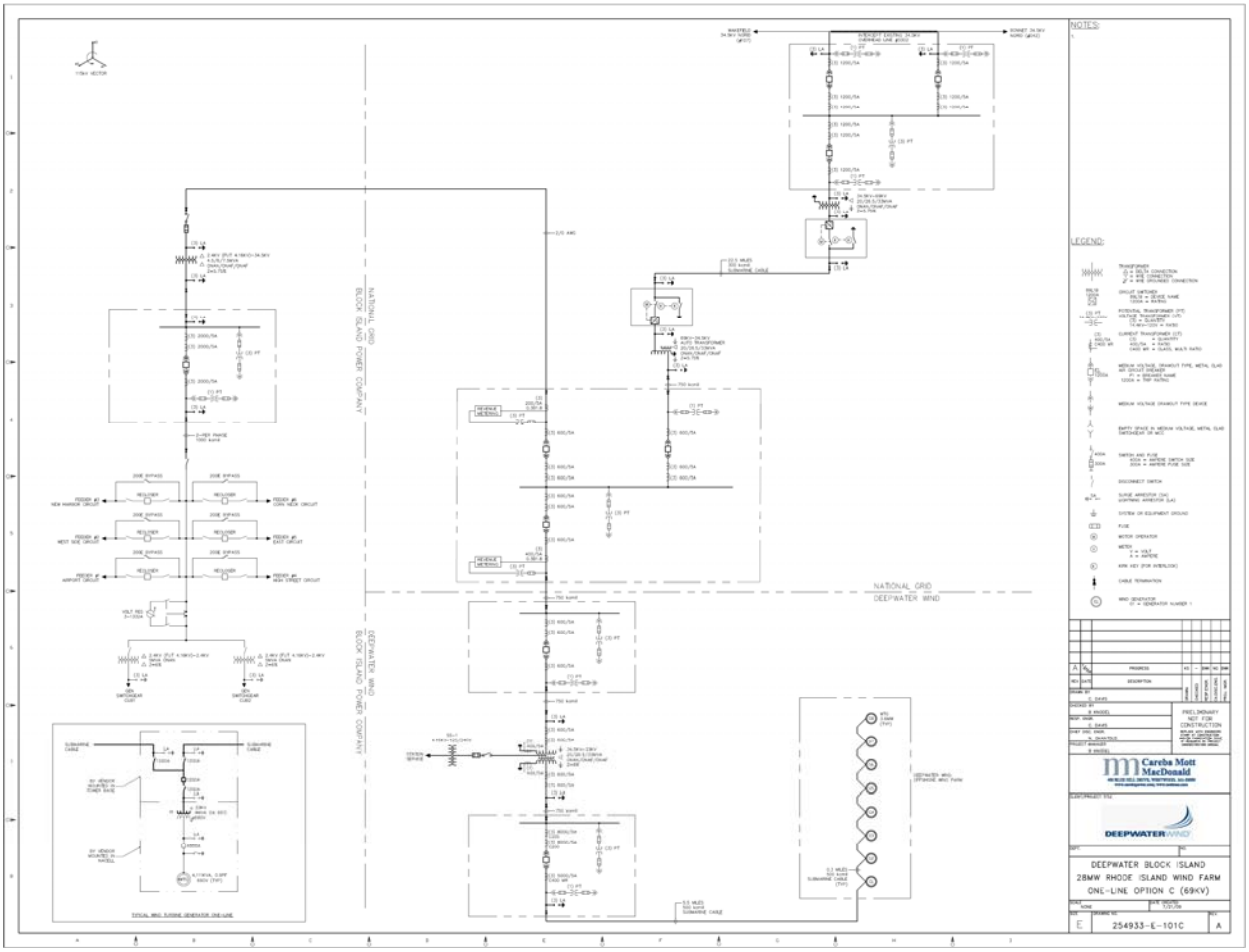
The interconnection of the Block Island Wind Farm requires three discrete interconnection systems. Although all of the design and engineering will ultimately require approval from National Grid, BIPCo, and ISO-NE, each interconnection will require a slightly different process.

Although identifying the ideal and most cost-effective location of interconnection will continue between DWBT and National Grid, DWBT has submitted a Large Generator Interconnection Request to ISO-NE for a mainland interconnection in Wakefield, RI. This interconnection request includes the Wind Farm, as well as the Transmission Project, and intercepts National Grid's Feeder 3302 near the Wakefield substation. A copy of this interconnection request is attached as *Appendix C*. DWBT anticipates that ISO-NE will commence an interconnection feasibility study upon the completion of a kick-off meeting, which will likely occur within 45 days.

5.4 Electrical Design

DWBT has completed the preliminary design of the Transmission Project, as shown in *Figure 5-5* below and in *Appendix D*.

Figure 5-5: Electrical One-Line



5.5 Interconnection Facilities

The Transmission Project consists of a Transmission Substation on Block Island, a Transmission cable and a Mainland Substation at a location yet to be determined, and are described in more detail, as follows: (1) Transmission Substation will be designed for a maximum rating of 69kV but could be only 34.5kV, depending on final interconnection parameters. As presently engineered, the Transmission Substation shall consist of an Auto-transformer, to convert 34.5kV to 69kV. The high side of the auto-transformer (69kV) will be connected to an open air insulated substation consisting of a circuit switcher with integrated motor operated disconnect switch with ground switch. This open air switchyard will have the needed primary and back-up over-current, differential and distance protection. The 69kV open air switchyard will include a cable riser for the 69kV underground portion of the Transmission Cable.

(2) The Transmission Cable will be a maximum design rating of three-core 300kcmil 69kV cable and minimum design rating of 34.5kV rating, depending on final interconnection location and configuration. It shall interconnect on Block Island to the Transmission substation and on the mainland at the Mainland Substation.

(3) The Mainland Substation will be designed to accommodate a maximum 69kV rating and be modified based on the final interconnection configuration. As currently filed with ISO-NE, the Transmission Cable will connect to a cable riser at the Mainland Substation as an open air switchyard, which will include a

circuit switcher with integrated motor operated disconnect switch with ground switch. This open air insulated switchyard will have the needed primary and back-up over-current, differential and distance protection. This open air switchyard will connect via a two winding 69kV to 34.5kV transformer. The Mainland Substation will include an outdoor walk-in 34.5kV metal-clad switchgear that will be used to intercept the existing National Grid overhead 34.5kV line 3302. The switchgear will have the needed primary and back-up line protection and the transformer differential protection.

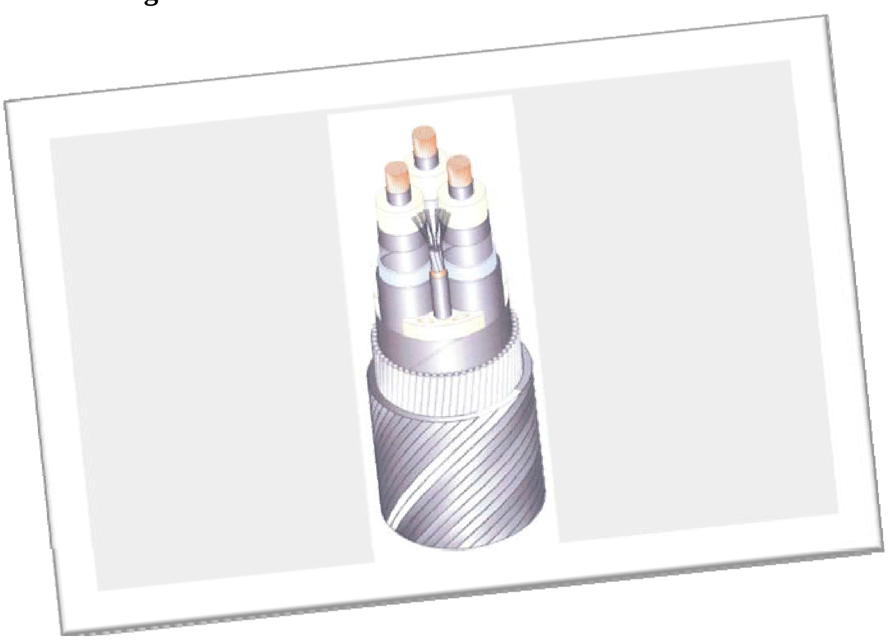
5.6 Transmission Facilities

DWBT has selected an established submarine cable technology which has been deployed throughout the world for many years and is currently the industry standard design for the majority of the submarine cable systems in the US plus mostly all of the European offshore wind farms.

The Transmission Cable will be a 3 conductor, Cross Linked Polyethylene (XLPE) insulated, single armored submarine power cable designed in accordance with the specifications of either the Association of Edison Illuminating Companies (AEIC) or the IEC and rated to carry power at a nominal 69 (35)kV voltage level. The Transmission Cable will consist of 3 copper conductors each insulated by a circumferential layer of XLPE. A longitudinal metallic sheath of lead alloy encompasses the XLPE insulation providing a hermetic seal for each individual conductor.[2] An example of this type of cable is shown below in *Figure 5-6* below.

A fiber optic cable is included in the interstitial space of the overall cable construction. These fiber pairs will be utilized to transmit data as part of the Supervisory Control and Data Acquisition (SCADA) system. A single layer of steel armor wires arranged around the outer circumference of the cable form the strength member for the cable which provides longitudinal strength for cable handling during laying and external protection from chafing and external aggression. It should be noted that during installation this cable will be buried in the sea bed to a nominal depth of 1 meter (3.2’).

Figure 5-6: Armored 3-Core Submarine Power Cable



[2] Final design parameters may preclude the use of the lead sheath.

It is standard industry practice to bury submarine cables to protect against external aggression (i.e. any outside action) that could damage the cable, such as fishing, trawling scallop or clam dredging, sand mining, piling, land-slides, earthquakes etc. DWBT is currently engaging with various cable manufacturers and installation contractors for the turnkey supply and install of the BITS cable system. A typical specification for an ABB supplied cable is included at *Appendix E*.

SUBMARINE CABLE ROUTE ENGINEERING

A preliminary marine route for the Transmission Cable has been chosen between Block Island and the Rhode Island mainland. On Block Island, the Transmission Cable landing is located on Corn Neck Road just to the North West of Old Harbor. On the Mainland, the Transmission Cable landing is currently located at Narragansett Beach, subject to discussions between DWBT and National Grid. The Transmission Project is approximately 32km (18nm) in total length as currently conceived and is shown in *Figure 5-1* above. At each landing site a Beach Manhole ("BMH") will be constructed. At the BMH the submarine cable will terminate in a splice to standard design, single conductor underground land cable. The preliminary land routes between the BMH and the substation for each landing are shown in *Figure 5-4* above.

MARINE ROUTE SURVEY FOR SUBMARINE CABLES

In order to finalize the design of the Transmission Cable and its route, discussion between DWBT and National Grid on the best interconnection location must commence in order to take into account system impacts and cost-savings to ratepayer. This will eventually include, among other activities, a full Route Engineering process. This route engineering will take into account such route parameters as soil conditions, weather conditions, ocean currents, soil thermal resistivity, existing submarine utilities and other pertinent data and will consist of 2 distinct phases:

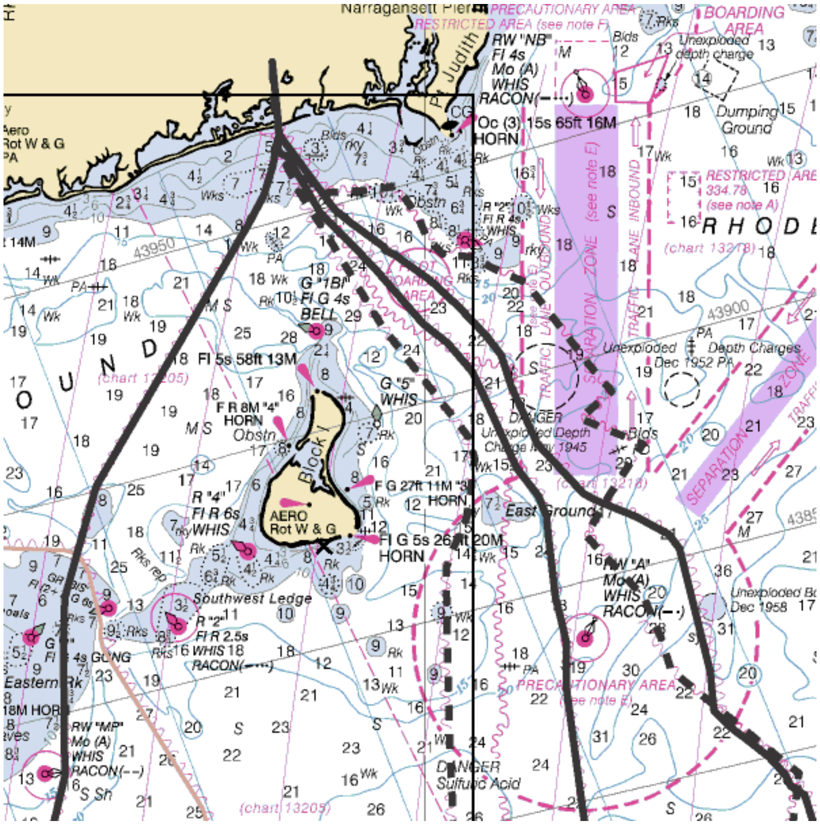
1. A Desk Top Study (DTS); and
2. The field gathering of empirical data, referred to as the Marine Route Survey (MRS).

DWBT has undertaken a brief DTS of the Transmission Cable route.

One of the major concerns during any submarine cable DTS is the research into existing submarine utilities. This is of particular importance when considering facilities offshore Rhode Island as there are many other users of the sea bed in this region, also because Rhode Island is the Western terminus for many of the trans-Atlantic telecommunication Fiber Optic submarine cables and is an area used for US Navy operations. As part of its DTS work DWBT has researched this particular area. This particular network of existing submarine cables is shown in *Figure 5-7* below.

DWBT has designed the Transmission Cable route to ensure there is minimal conflict with the network of existing in-service and out-of-service telecommunications cables off Rhode Island.

Figure 5-7: DWBT DTS Data of existing telecom network



Once the DTS is completed for the Transmission Cable routes, the comprehensive Marine Route Survey ("MRS") will be completed along the preliminary route developed during the DTS phase. The MRS for cable design will consist of the following components:

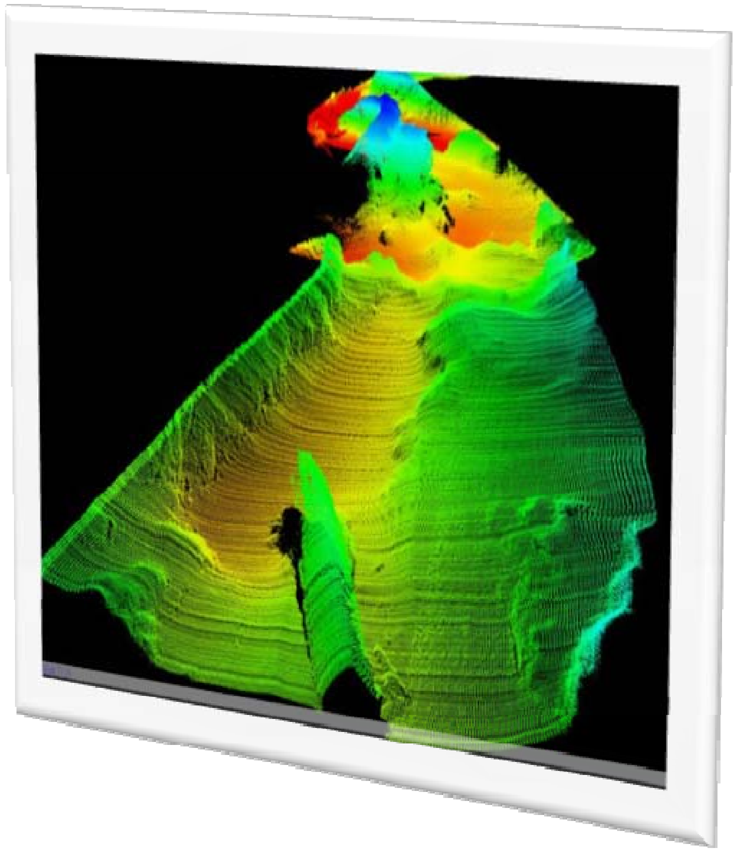
1. Propose a final installation route and propose a final cable length based on data found during the survey. A first-rate vendor, such as ABB, shall certify the final cable length; certify the final cable route and issue a Route Position List ("RPL") plotted on 4- panel survey charts.
2. Identify any crossings of existing utilities.
3. Identify any obstacles or other undisclosed conditions along the proposed route.
4. Conduct a Burial Assessment Survey ("BAS"). This will ensure that the cable can be buried using a Jet Plow.
5. Sample soil conditions along the route to verify the Thermal Resistivity data assumed in the Desk Top Study.
6. Identify any environmental or man-made hazards along the route that may impede the progress of the project.
7. Identify any significant archeological sites along the route, survey these if necessary and interface with the RI State Historic Preservation Office ("SHPO").

The survey work shall be conducted utilizing a variety of industry standard methodology and equipment which include Geophysical Surveys and Diver or ROV Investigations.

GEOPHYSICAL SURVEY (ELECTRONIC DATA GATHERING)

Bathymetric data will be collected using a multi-beam echo-sounder system. An example of multi-beam bathymetric data processed after a Marine Route Survey is shown in *Figure 5-8* below. As can be seen this provides a virtual 3-D presentation of the sea bed which greatly enhances the task of cable design.

Figure 5-8: Example of Multi-Beam Bathymetry



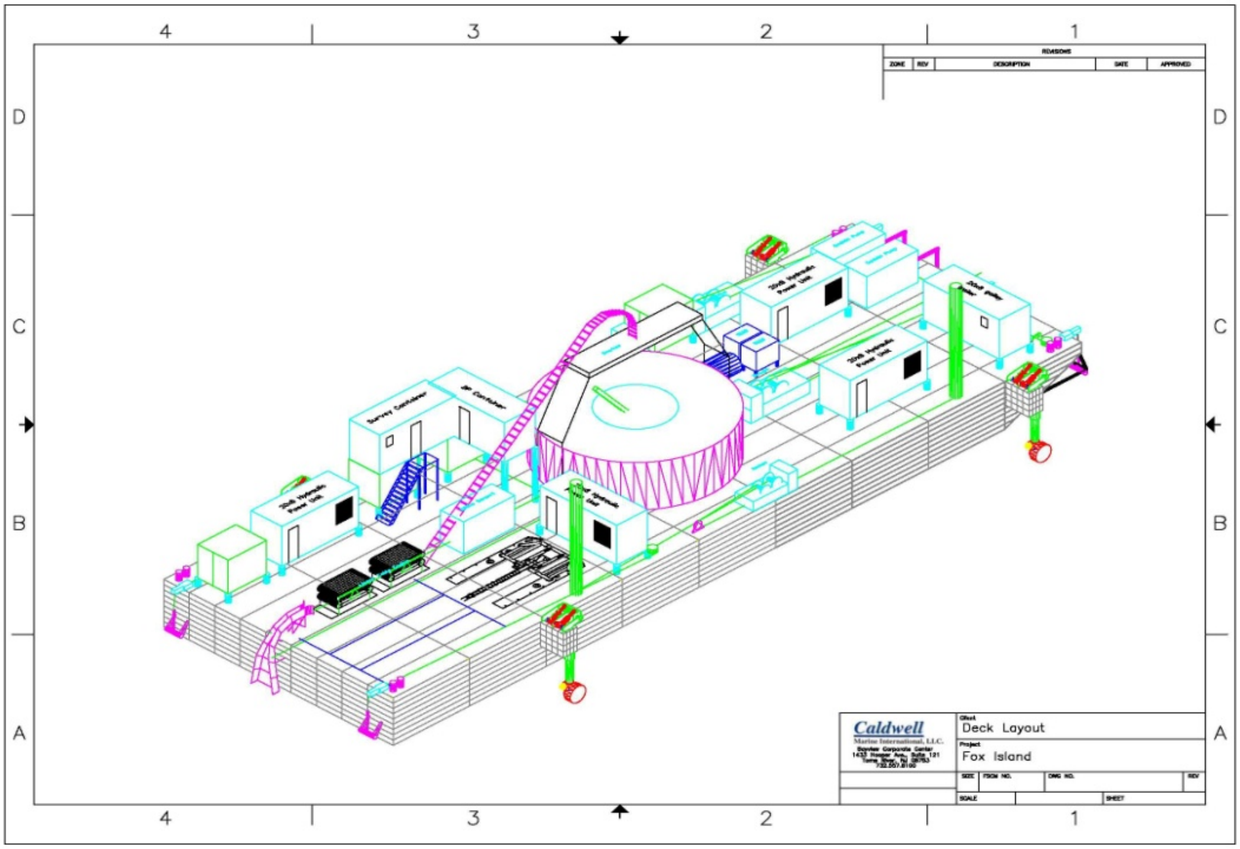
The Transmission Cable corridor will be surveyed along track-lines oriented parallel to the proposed cable alignment at a spacing to ensure 100% coverage over the corridor. Side scan sonar imagery and magnetometer data may be collected simultaneously with the echo-sounder data to expedite survey operations and provide a co-registered data set. Sub-Bottom Profiler data shall be collected along the route.

INSTALLATION OF TRANSMISSION CABLE

The design, production and installation of submarine power cable are mature disciplines having been in existence for over a hundred years. Thousands of miles of submarine power cable have been manufactured and installed worldwide.

Currently, DWBT is in discussion with the top cable vendors in the world, like ABB, to source the transmission cable from their cable factories. Submarine cables will be shipped factories via a commercial freighter to a mobilization yard. In this yard the cable will be unloaded from the freighter onto a cable installation barge which will be equipped with a portable Dynamic Positioning (DP) system. The following *Figure 5-9* shows a typical cable installation barge for this type of work. Prior to the physical loading of the submarine cable onto the installation barge a complete engineering analysis of the barge spread and cable handling parameters is undertaken and a 3-dimensional model of the barge is built on a computer before the barge is physically mobilized. This ensures that the barge will handle correctly under the load of the cable and the local environmental conditions.

Figure 5-9: Cable Lay Barge

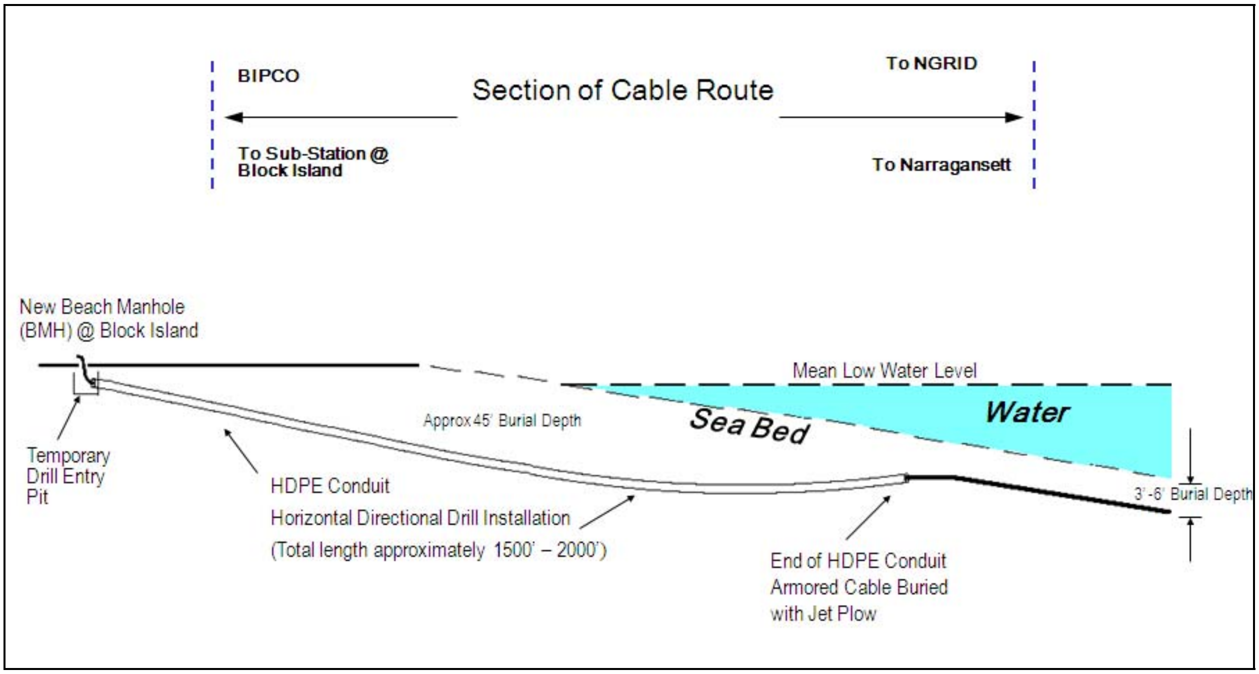


The Transmission Cable will be buried for its entire length with a target burial depth of 6 feet into the sea bed. Burial will be accomplished by use of a specially designed Jet Plow system whereby the cable is simultaneously laid and buried. This methodology for submarine cable installation has been permitted and successfully installed in previous submarine cable projects in Rhode Island and throughout New England and the United States..

Out of concern for the fragile environmental conditions in the surf zones, all submarine cable shore landings shall be conducted via Horizontal Directional Drilling (HDD) techniques. HDD is a methodology whereby a cable duct or conduit is installed under an obstacle such as a river or a shore surf zone where open cut methodology would not be possible. It should be noted that HDD operations have been acceptable to the various state and federal permitting agencies in previous submarine cable projects along the coast of Rhode Island.

Figure 5-10 below shows a typical shore landing HDD configuration for the transmission submarine cable landing at the Block Island site.

Figure 5-10: Typical HDD Profile



At a new manhole site to be constructed at the Block Island landfall HDD operations will be conducted to install a 16" diameter HDPE conduit that will extend approximately 2,000 feet into the Atlantic Ocean.

HDD operations will be conducted in the winter season in order to minimize any impact on the local communities. (The local area around Block Island is predominantly shore communities with seasonal businesses and rental properties many of which close down for the winter months). The land portions of the Transmission Cable on Block Island and the mainland will be installed via traditional underground utility methodology also in the permitted winter season.

SECTION 6: OPERATIONS AND MAINTENANCE PLAN

Submarine cable systems such as the Transmission System require multiple forms of operations and maintenance support.

DWBT anticipates that upon the commencement of commercial operations, National Grid will assume ownership of the Transmission System.

6.1 Operational Control

After commissioning, DWBT will turn over the operational control of the Project to ISO-NE. Thus, upon the commencement of commercial operations, DWBT will be responsible for the safety and maintenance of the physical system and the ISO will be responsible for dispatching and scheduling the Project. DWBT will establish an operations room and staff it with individuals who will take direction from the ISO.

As such, prior to the start-up of any wind farms, the ISO will have full control over the dispatch schedule of all of the capacity of the line. And, as wind farms come on-line, the capacity available for the ISO to schedule is reduced. The ISO will retain full control over the dispatch of the line, but will not schedule power over that portion of the line that is reserved for wind unless the wind farm releases that capacity to the ISO for resale.

In accordance with its governing documents, the ISO will schedule and dispatch the Project according to current market factors such as congestion, requests for imports, requests for exports and other factors. The ISO will control the Project remotely, sending updated instructions to the Project's control system every five minutes directly from their control room.

In the event of a communications system failure or the need for rapid physical response, the ISO will instruct the DWBT operations room staff to perform certain authorized functions, such as dispatching the line, essentially with DWBT operations acting as a manual override for field operators.

6.2 Monitoring and Communication

The data from current transformers ("CT") and potential transformers ("PT") at the switching stations and sub-stations that are associated with DWBT will be gathered using the latest technology in digital/microprocessor relays, IEDs, and PMUs. This data will be integrated with a Remote Terminal Unit ("RTU"), disturbance recorders, SCADA system, and GPS Clock (for universal time-stamping of recorded data and events).

Synchrophasor, power quality/flow, current, voltage and harmonic data collected by the above technologies will be connected to the Local Area Network ("LAN") via an encrypted secure and dedicated outside line via fiber-optics, or T1. The LAN will transmit the phasor data to the appropriate regional PDC. Other system data (breaker/switch/equipment status, voltage magnitude, current magnitude, harmonic content, power quality/flow, temperature, etc.) will be sent via the LAN to the appropriate SCADA control center where information can be sent to other monitoring organizations and agencies. In addition to the technologies discussed in this section, DWBT will utilize premier digital communication technology within its network and in its interface with any connecting networks. DWBT will have the capability to accommodate any further communication capabilities that may arise as the Smart Grid concepts, standards and criteria evolve.

6.3 Submarine Cable System Maintenance

By virtue of its robust installation methodology there is no on-going, routine maintenance required on a submarine cable system. A well engineered and installed submarine cable system devoid of any external aggression will operate reliably for its entire design life of 25 to 30 years. External aggression is defined as any external force applied on the cable to physically damage the cable. This includes fishing, clam dredging, piling, marine construction, sub-sea earthquakes, and other outside forces.

However a prudent cable owner will take pro-active steps to ensure that he is ready with the right spare equipment and personnel to repair the cable on an emergency basis should the need arise. This preparedness would include having a qualified marine contractor under contract on an emergency standby basis to mobilize for a system repair if or when necessary.

Note: During the Marine Route Survey the deepest water section of the route will be recorded. This will aid in determining the amount of spare cable to be ordered. A general rule of thumb is that any repair would require a minimum length of spare cable of four times the depth of water at the repair site. This rule usually increases exponentially as the water gets deeper.

DWBT will take the following steps to ensure readiness in the event of a cable failure and the need for a rapid repair:

1. Purchase at least 1KM of spare cable each for both the Project transmission cable and the wind turbine inter-array and export cables. This spare cable would be delivered at the same time as the system cable prior to installation. It will be on reels and can be used as an emergency spare should there be a need for such during the system installation.

2. Purchase two flexible repair joints and jointing consumables. Again these joints would be delivered with the system cable prior to installation and would be available if needed during installation operations.

3. As part of the O&M program purchase and maintain a fault locating system most likely consisting of a low frequency tone generator and associated cable tracking device(s) and a TDR/Hipot configuration.

4. Post installation the spare cable reels and repair splice kits would be stored at a shore side depot in close proximity to a dockside location

5. Ensure that either the cable manufacturer or another source has an adequate roster of qualified cable jointers.

6. Post installation enter into an agreement with a qualified marine contractor with the requisite submarine cable repair experience to be on a call-out basis should the need arise for a repair to the cable. A typical Scope of Work (SOW) for such a call-out contract is as follows:

Typical Emergency Standby Repair Contract Scope of Work

General Scope

The work to be performed under this contract shall generally consist of the standby services, fault location services, and repair services for a cable fault to the submarine portion of the Project cable system between Block Island and Narragansett Beach on the Rhode Island mainland. Standby services include preliminary repair documentation and emergency contact information. Repair services include mobilizing, locating, repairing, reburying, surveying, and documenting services for a cable fault. Services furnished by Contractor shall be performed in accordance with this Specification and shall include all labor, equipment, temporary permits, and material necessary to accomplish the following tasks:

1. Provide a 24 hour, 7 day per week, on-call service
2. Maintain a BITS system data base at contractor's office. This would include an emergency response manual which would also be held by DWW system operations staff.
3. Provide cable locating and fault localization services within three (3) days of receipt of Notice to Proceed for Fault Location Services.
4. Provide cable repair services within eleven (20) days (not including cable reel mobilization) of receipt of Notice to Proceed for Cable Repair Services.
5. Mobilize the spare cable reel onto the repair barge
6. Communication and coordination of daily work activities with all affected local, state and federal agencies as well as private interest parties.
7. Transportation of all land and sea based equipment, labor, and material to/ from the repair site.
8. Removal of material above the cable system to allow for cable retrieval.
9. Cut, rough seal, and retrieve the damaged cable system to the deck of the repair vessel.
10. Assist the cable manufacturer's splicing and testing personnel with power cable and/or fiber optic cable repair operations.
11. Lay and bury the repaired cable to a depth of X feet below the sea bottom.
12. Survey the reinstalled cable and provide as-built information.
13. Restock all cable and jointing consumables used during the repair.

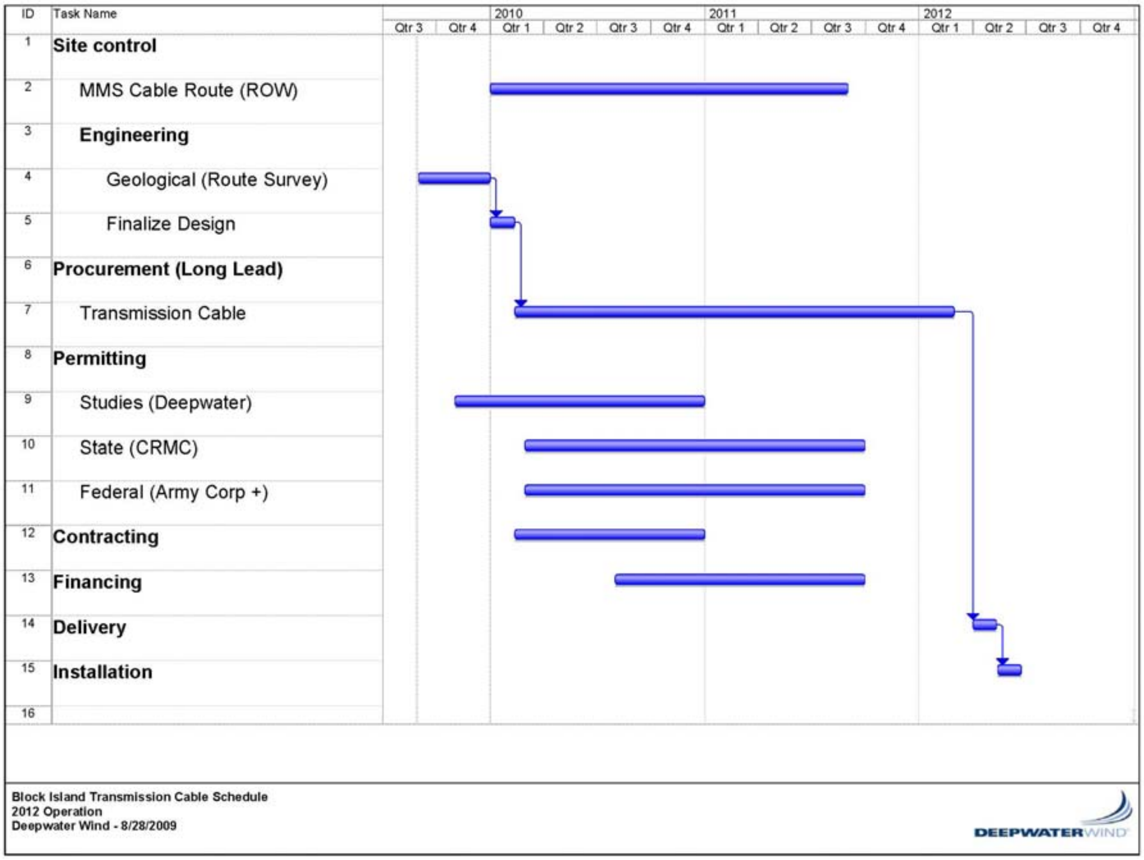
SECTION 7: PROJECT SCHEDULE

Figure 7-1 represents the project schedule, which incorporates all elements of the project from state permitting and zoning to financing and construction. The schedule was constructed by obtaining the best available information from the most reliable industry resources.

Some of the assumptions made in this schedule include:

- Eight offshore wind turbines sited within three miles of Block Island.
- Completion by August 2010 of the SAMP. The SAMP will provide the necessary information to enable the Rhode Island Coastal Resources Management Council to determine whether our proposed project meets the state's coastal consistency zoning requirements.
- USACE and MMS rights of way issued six months after application.

Figure 7.1: Transmission system project schedule

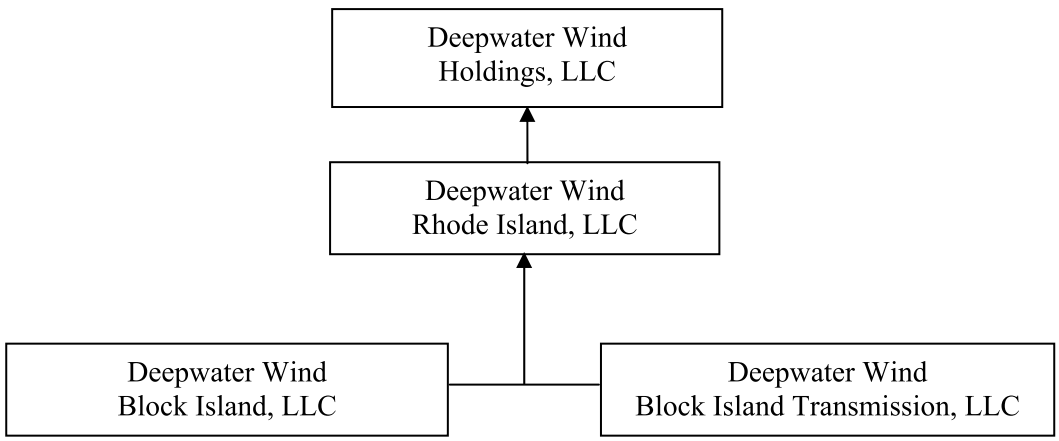


SECTION 8: PROJECT MANAGEMENT AND EXPERIENCE

DWBT Wind plans to develop the project using a multi-contract contract approach, coupled with a project management firm that is responsible for overall integration of the various components of the project. This development method is our preferred alternative to typical engineer-procure-construct contracts that are more common for implementation of land based wind projects. Under a multi-contract approach, implementation of the project is broken up into a small number of discrete contracts that can each be executed with contractors that are experts in their various fields. This approach reduces costs and relies on professional project management.

8.1 Organizational Chart

Figure 8-1: DWBT Wind Organizational Chart



8.2 Project Participants

PROJECT MANAGEMENT STRUCTURE

DWBT is evaluating two project management options: either separate supply and installation contracts coupled with a separate project management contract or a turn-key supply and installation contract. In either case overall implementation will be the responsibility of the Project Executive.

Figure 8-2a, below, depicts the Project Executive overseeing all aspects of the project from engineering through to commissioning. The fundamental role is to ensure that the scopes of work for all engineers, advisors, vendors, and contractors are integrated into a cohesive project development and construction plan that delivers the project on time and on budget. Separating out the supply contract from the installation contract requires separate retention of a professional project management entity and separately insuring against performance risks. This means of contracting is more complex than a turn-key approach, but is also likely to be less expensive.

DWBT Wind will utilize Noble Denton in the role of project manager, which has been managing offshore engineering and construction for over 30 years. At present, Noble Denton is managing implementation of the 100-turbine Thanet project in the UK – the largest offshore wind project currently under construction. Noble Denton also owns Garrad Hassan the world-renowned wind resource experts. Gulf Island Fabrication, North America's largest jacket fabricator, and Norwind, the offshore marine contractor currently building the North Sea-based Alpha Ventus project that utilizes jacket foundations with 5 MW turbines are potential team members for our Block Island project.

Figure 8-2a: Project Management with Separate Supply and Install Contracts

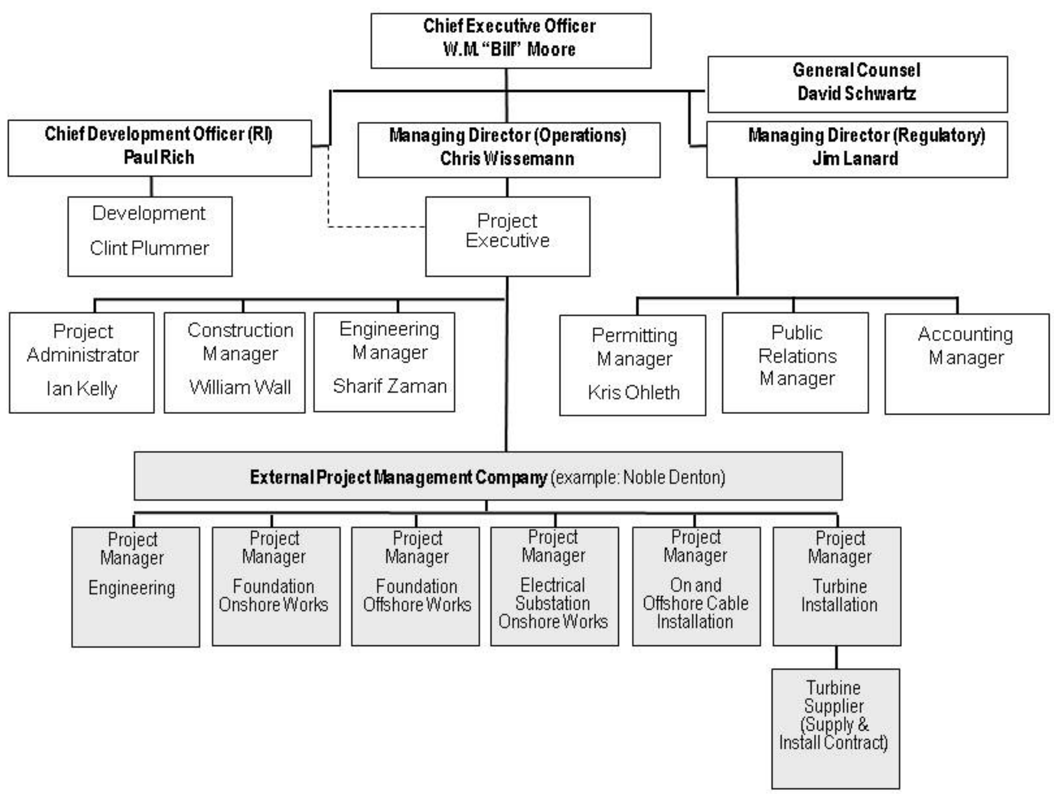
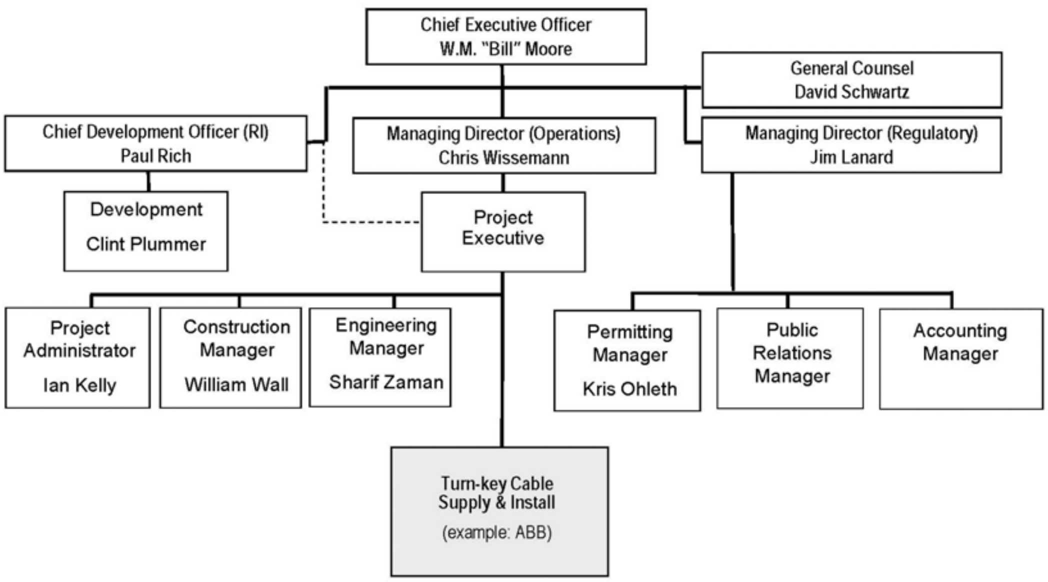


Figure 8-2b, below, depicts an example of a turn-key supply and install option for the supply and installation of the wind farm's submarine cable. This type of turn-key arrangement would result in having all installation and performance risk falling onto the cable supply and install contractor. While this is a valuable means of reducing risk, it is considerably more expensive.

Figure 8-2b: Project Management with Turn-key Operation



<u>Comment on Project Management Options.</u> DWBT anticipates working with National Grid to determine which contract structure better meets National Grid's long term operations and maintenance goals. Indicative costs provided assume turn-key contracts.

CONTRACTOR EXPERIENCE

Figure 8-3, below, provides a sampling of relevant project experience for select contractors. Noteworthy projects in which team members have been involved are also referenced there. These experiences range from the first offshore wind project implemented utilizing jacket foundations to the largest jacket foundation ever constructed – the Bullwinkle platform built in 1,100 feet of water more than 20 years ago.

Figure 8-3: Contractor Experience

Select Contractors/ Advisors	Select Projects: **Beatrice** (Wind Farm) First built with Jackets	**Thanet** (Wind Farm) Largest Under Construction	**Alpha Ventus** (Wind Farm) Current Jackets Under Construction	**Ormonde** (Wind Farm) Largest Jacket Wind Farm	**Neptune** (Cable) Largest DC	**Nysted** (Wind Farm) Largest Operating	**London Array** (Wind Farm) Largest under Development	**Vindeby** (Wind Farm) First Built	**Bullwinkle** (Jacket) Largest ever Built
ABB			X	X		X	X		
Siemens					X	X	X	X	
OWEC Tower	X		X	X					
Noble Denton		X							
Norwind			X						
E & E					X				
OSI					X				
Gulf Island Fab									X
Garrad Hassan		X		X		X	X		
DNV	X	X	X	X		X			

8.3 Key Personnel

The Block Island Wind Farm team members have experience with dozens of major renewable energy projects. Our management team has an impressive track record, including playing leading roles in the successful development of major submarine transmission systems, such as the Neptune Project and Maine's Fox Island Transmission System. Resumes of key project personnel are provided as *Exhibit 1* at the end of this document.

Block Island Wind Farm will be managed by William M. Moore, Chief Executive Officer and Managing Director of DWBT Wind Holdings. Mr. Moore is one of the most experienced wind project developers now active in the U.S. offshore market. He previously co-founded Atlantic Renewable Energy Corp., which, over a span of 10 years became the leading developer of commercial wind farms in the eastern U.S. Mr. Moore led the development of the 325 MW Maple Ridge Wind Farm (Lowville, NY), which remains the largest wind facility in eastern North America.

8.4 Project Experience

DWRI has been selected as the preferred developer by the State of Rhode Island to develop offshore wind projects there. Garden State Offshore Energy, a partnership between Deepwater and N.J.-based Public Service Enterprise Group (PSEG), was also selected by the State of New Jersey to be that state's preferred developer. In addition, Deepwater has secured a submerged lands lease on the outer continental shelf in order to construct an offshore meteorological tower as part of the development of that project.

Deepwater's principals, together with Deepwater's sponsors and affiliates, have had extensive experience in the power sector, including the development and/or construction management of several submarine power cable projects as listed below.

- Development of the first three commercial wind projects in New York State, including the largest commercial wind farm now operating in New York State.
- Development of the first commercial wind project in NYS to sell attributes under contract to the NY Power Authority.
- Development of the first commercial wind project in NYS to sell renewable energy credits under contract into the NE-ISO.
- Development of the first, and largest, commercial wind projects in Maine and Vermont; and the largest wind projects in both Hawaii and Utah.
- Commissioning of over 170 MW of onshore wind projects in 2009 with an additional 200 MW currently under construction and scheduled for commissioning in November, 2009.
- Development of a 660 MW HVDC merchant transmission system interconnecting the Long Island Power Authority with PJM.
- Project management for a 345 kV NYPA submarine power transmission project across Long Island Sound, NY.
- Turnkey supply and installation of a 69kV 3/C submarine power transmission cable system inter-connecting four islands in the San Juan Islands, WA.
- Turnkey supply and installation of 16 kM of 35 kV 3/C submarine power transmission cable in the Fox Islands, Rockland ME.
- Supplied major marine construction upgrade to the ConocoPhillips offshore loading facility in Long Island Sound.
- Installed 3x EHV SCFF 242 Kv Submarine power transmission cable system 33 km in length in Vancouver Island, Washington.
- Secured repair contract for the HVDC submarine power transmission cable system connecting Connecticut and New York across LI Sound.
- Consulting engineering contract to advise a major UK energy company on the installation of Round 2 offshore wind farms in shallow water offshore the east coast of England.

8.5 Project Team

Construction Period Lender, if any

TBD

Operating Period Lender and/or Tax Equity Provider, as applicable

TBD

Financial Advisor

TBD

Risk Management and Insurance Advisor

Meyers-Reynolds is a risk management and insurance company directly involved in many aspects of the power generation/utility business. With an in-depth working knowledge and hands-on industry expertise, Meyers-Reynolds provides the broad perspective necessary to address the myriad evolving risk management and insurance issues that face the power generation industry.

Environmental Consultants

Ecology and Environment (E&E) has extensive and recent experience conducting siting, environmental analyses, and permitting for offshore energy projects worldwide, including offshore wind farms, LNG terminals, DWBT ports, FPSOs, and subsea pipeline and electrical transmission cable projects. E&E has provided primary permitting services in the development of over 1,600 MW of onland wind across the country.

AECOM Environmental will support the Block Island Wind Farm's permitting efforts. AECOM is a global leader in providing integrated planning and engineering solutions. AECOM supports efforts to reduce energy consumption, develop renewable sources, improve grid reliability and cut emissions from fuels already in use.

Owner's Engineers

Noble Denton (ND) provides life cycle marine and offshore engineering services to the oil and gas, marine and renewable energy industries. ND issues marine warranty approvals for some of the world's largest field developments; the company's pioneering nature serves to attract businesses that need development and installation of innovative platform concepts such as Tension Leg Platforms, Spars and the world's first floating production facility. ND's expertise in the oil and gas sector has led offshore wind developers to them; ND's project management and foundation installation services are currently being provided to the Vattenfall-Thanet Wind Farm, planned to be the largest wind farm project in the world.

OWEC Tower is an offshore wind design and engineering firm based in Norway. OWEC developed a patented turbine jacket foundation that is being used in the Beatrice offshore wind farm project off the coast of Scotland; additional foundations and turbines are scheduled for installation at the project site in the coming years. DWBT has an exclusive franchise agreement with OWEC to use their jacketed foundations

GZA GeoEnvironmental, Inc. is a soils and foundations specialty consultant providing a wide range of geotechnical engineering, environmental consulting and remediation services. GZA has been involved in offshore wind projects in the Northeastern United States over the past several years. The success of these offshore projects is dependent upon adequate submarine and overland cable transmission infrastructure; GZA has the necessary expertise to get the job done.

Ocean Surveys, Inc's (OSI) capabilities include hydrographic, oceanographic and limnologic, geophysical and geotechnical survey services. Ocean Surveys has successfully completed site investigations in 35 states and 40 countries located throughout six continents. OSI has worked on a number of projects similar to the Block Island Wind Farm, performing desktop studies to compile geologic, oceanographic, sediment chemistry, and maritime activity background information supporting the feasibility assessment of projects.

<u>Transmission Consultants</u>

ABB has significant expertise in power and automation technologies that enable utility and industry customers to improve performance while lowering life cycle costs and environmental impacts. The ABB Group of companies operates in nearly 100 countries and employs about 115,000 people. ABB's power technologies business incorporates its manufacturing network for transformers, switchgear, circuit breakers, cables and other associated equipment. ABB pioneered the development of HVDC technology for wind farm grid integration with a 43-mile long 50 MW underground cable interconnection on the island of Gotland in the Baltic Sea in the late 1990s. ABB is currently constructing a record 124-mile long HVDC submarine and underground cable system that will interconnect a large 400 MW offshore wind farm in the North Sea.

Siemens PTI is one of the world leaders in the transmission and distribution field. Siemens has developed sophisticated products and solutions for transmission and distribution network instrumentation, monitoring, and control. Siemens Smart Grid technologies have proven their reliability, availability, and cost-efficiency in a number of different projects around the globe – in Austria, Canada, China, England, Germany, New Zealand, Saudi Arabia, Sweden, the UAE, and the USA.

Careba Mott MacDonald is a power engineering company that provides engineering, design and on-site support to power plant and transmission developers, contractors and power distribution utilities. Careba has extensive experience with the engineering and design of major power generation, distribution, and transmission projects.

CRA International (CRA) is a leading economics and business consulting firm, with over 900 professional staff in the US, Europe, Canada and the Asia Pacific region. CRA advises a range of clients on transmission and asset development. CRA maintains both a business and a financial advisory capacity, along with a sophisticated power markets modeling capability that was designed to model transmission constraints and their impacts on investor cash flows.

Environmental Crossings develops alternative, non-conventional methods of placing power lines under streams, rivers, marshes, wetlands, beaches, estuaries, highways, protected habitats, and other sensitive areas. Their team has many years of experience involved in directional drilling with over 1000 HDD (Horizontal Directional Drilling) crossings, both domestic and international. HDD projects include drilling in all types of rock and alluvial soils.

<u>Legal Counsel</u>

HAS Law is a leading Providence-based law firm, with comprehensive experience in a variety of issues salient to our project, including energy, environment, and construction law. Their energy group has represented public utilities and other energy providers, merchant electric generating plant developers and owners, construction companies, manufacturing and institutional energy users, financing sources and conservation providers. HAS Law's environmental group counsels clients in every aspect of environmental law, including regulatory compliance, counseling, real estate and corporate due diligence, permitting, insurance coverage issues, and environmental litigation.

Exhibit 1: Resumes of Key Personnel

WILLIAM M. MOORE

PROFILE

Entrepreneurial energy industry professional experienced in the development and financing of wind energy projects, complex sales, analytics and modeling, deal-making and negotiations, financial structuring and asset underwriting.

EXPERIENCE

Deepwater Wind LLC

CEO and Managing Director

Manages all development and permitting activates for Deepwater Wind, LLC.

Atlantic Renewable Energy Corporation (leading developer of commercial wind farms in the eastern US, acquired by PPM Energy in 2005)

Co-Founder 1998 - 2005

- Company grew into the leading developer of commercial wind farms in the eastern US
- Lead developer of the 10 MW Madison (NY) and 30 MW Fenner (NY) wind projects, as well as the 325 MW Maple Ridge Wind Farm in Lowville, NY
- Did the early development of Atlantic Renewable's mid-Atlantic wind farms: the 15 MW Mill Run, 6 MW Somerset and 44 MW Meyersdale wind plants—the first commercial wind powered generating facilities in Pennsylvania—along with the 66 MW Mountaineer (WV) wind plant (all of which are now owned and operated by FP&L Energy)
- Worked for PPM Energy on the development of a 500 MW portfolio of wind farms in northern NY until the end of 2008. (PPM Energy is now part of the Iberdrola Group of companies, the largest owner/operator of wind farms in the world)

Previous to founding Atlantic Renewable Mr. Moore:

- Led the development and financing of the Tierras Morenas and Aeroenergia wind farms in Costa Rica for EnergyWorks, a Landover (MD) based joint venture of PacifiCorp and Bechtel
- Financed numerous independent power projects for US Generating, a Bethesda, MD based PG&E/Bechtel joint venture
- Arranged debt financings, and provided other investment banking services, for a range of utility and independent power clients for CS First Boston in NYC.
- Prior to graduate school he was involved in energy and environmental policy work in Massachusetts

EDUCATION

Yale College New Haven, CT

Bachleor of Arts in Economics, Cum Laude 1978

Yale School of Management *MBA* 1988

CHRIS WISSEMANN

PROFILE

Highly experienced energy professional with a career in alternative and renewable energy that spans 25 years. Focus has been on non-traditional power development while specializing in technical aspects of power generation technologies as well as economics, permitting, market-making, and finance.

EXPERIENCE

Deepwater Wind LLC
Founder, Chief Operating Officer
Manager of all strategy, engineering and construction, and infrastructure development. Responsible for managing all of Deepwater Wind's technical operations.

Northern Power Systems
Vice President 2004 - 2005

- Responsible for business development in the Northeastern United States, focusing on distributed generation and alternative energy projects
- Developed first grid interconnected synchronous distributed generation project in Manhattan
- Created subsidiary to build, own and operate large-scale solar photovoltaic systems

RealEnergy, New York
Senior Vice President 2002 - 2004

- Responsible for sales, design, construction and operations of RealEnergy's distributed generation systems in the Northeastern United States

Enron Energy Services, Houston Texas
Vice President 1998 – 2001

- Created and managed team responsible for structuring EES' Demand Side Management and Operations & Maintenance services in company's largest outsourcing transactions
- Created structure, pricing and service delivery strategies, directed negotiations

Enersave, Inc., New York
Executive Vice President, Chief Operating Officer 1990 – 1998

- Co-founder of private energy services company structured to deliver Demand Side Management services to electric utilities as well as retail energy consumers under long term contracts
- Services ranged from delivery of efficiency derived electric capacity to strategic consulting and construction management for customers across the Northeast

Energy Investment, Inc., Boston
Program Manager 1988 – 1990

- Originated, managed and delivered energy related consulting services for clients including Fortune-500 commercial and industrial companies and government agencies
- Focus ranged from research and policy to creation of site specific demand side management strategies

Turner Power Group, Inc., New York
Project Manager 1986 – 1988

- Managed design and construction along with technical sales support services in joint venture between DAS/Power Systems and Turner Construction to develop independent power plants

DAS/Power Systems, Inc., New York
Systems Engineer 1983 – 1986

- Sales support and project management of commercial solar and packaged cogeneration systems financed using syndicated third-party financing sources structured to take advantage of investment tax credits (focus was on small systems under 500 kilowatts)

EDUCATION

Brown University Providence, RI

BA in Energy Studies 1983

JAMES S. LANARD

PROFILE

Business development professional specialized in: project feasibility analysis and implementation, including siting of high profile initiatives; energy and environmental policy analysis and advocacy; government relations; community, public and media relations; media training

EXPERIENCE

Deepwater Wind, LLC *Managing Director*

Manages the regulatory affairs, legislation, and media relations for Deepwater Wind.

Bluewater Wind offshore wind companies (Babcock and Brown LLP owners)

Head of Strategic Planning and Communications, Government and Public Relations 2007 - 2009

FLG Strategies, LLC *President* 1999 - 2007

Lanard & Associates *President* 1995 - 1999

- Provide strategic planning and government, communications and public relations counsel to clients
- Defend investor-owned utilities from threats to franchise rights (stop hostile takeovers) and support transition activities from regulated monopoly to free market businesses
- Florio for U.S. Senate Primary (leave of absence from FLG): Co-Campaign Manager, Communications Director and Spokesman, February to June 2000

The Walt Disney Company, Disney's America *Director of Government Relations & Environmental Programs* 1994-95

- Director of government relations activities for $650 million development with major regional transportation plan (VA, MD and DC MPO)
- Member of project's Executive Committee; supported development of environmental policies

Beckel Cowan, a Cassidy Company (Washington, DC) *Senior Associate* 1990 - 1994

- Developed and implemented strategic communications and government relations programs
- Project Director: Disney's America theme park and associated development; landfill and mega store development initiatives; Superfund reauthorization campaign; state waste flow legislation

U.S. Representative Frank Pallone (NJ), *Chief of Staff/Legislative Director* 1989 - 1990

- Provided counsel on Public Works and Transportation Committee matters
- Chief political advisor and coordinator of policy development
- Managed staff for legislative business and constituent relations

Israel Environmental Protection Service (EPS), Jerusalem, Israel 1987 - 1988

- Advised EPS and non-governmental organizations on methods to develop support for environmental and transportation initiatives in Israel
- Developed proposals that resulted in establishment of cabinet-level advocacy agency

New Jersey Environmental Lobby *Executive Director* 1982 - 1986

Clean Air Council (Philadelphia) *Executive Director* 1978 - 1981

- Interacted with diverse members of Boards of Directors; managed staff and volunteers and directed administration of organizations; leader of state environmental Political Action Committee (NJ)
- Formed and directed grassroots advocacy coalitions, including precedent-setting broad-based labor and environmental coalition
- Developed legislative initiatives on waste clean-up, recycling, transportation, and worker and community health and safety issues

Rutgers University Visiting Assistant/Adjunct Professor 1983 -1986

Drexel University Adjunct Assistant Professor in Graduate School 1979 - 1980

EDUCATION

Boston University, Boston, MA *Bachelor of Science in Political Science,* Cum laude 1970 – 1974

University of Miami School of Law, J.D. 1978

Admissions: Bars of Pennsylvania (1978), Florida (1979) and New Jersey (1981)

PAUL M. RICH

PROFILE

Project developer and energy industry professional with over 20 years experience in project siting, financing, and development.

EXPERIENCE

Deepwater Wind, LLC *Chief Development Officer Present*

Overseeing the development effort of Deepwater Wind, Rhode Island. Responsibilities range from strategic planning and media/government relations to electric transmission interconnection oversight and budgeting.

Cross Hudson Cable, LLC *Chief Development Officer 2007-2009*

- Oversaw the organization, development and securing of all Federal, State, and Municipal permits
- Identified facilities siting and negotiating rights-of-way
- Interfaced with constituent groups and governmental agencies
- Created and implemented government and community outreach
- Oversaw the construction and route design

OEST Associates, South Portland *Business Development Director 2003-2007*

- Helped oversee all aspects of business development, marketing and project management for 90+ architects, professional engineers, and surveyors.
- Specific Projects, included:
  - Hydrogen Fuel Cell Project - Chewonki Environmental Education Center, Wiscasset
  - Passamaquoddy Indian 240MW Tidal Energy Project - Eastport, Maine

NeptuneRTS, Atlantic Energy Partners *Chief Operating Officer 2001-2003*

- Tactician, Team Leader, and Day-to-Day Operations Manager of $550 million project known as Neptune Regional Transmission System: an innovative 660MW underwater high-voltage direct current ("HVDC") electrical transmission project connecting energy resources in New Jersey with energy-starved areas of Long Island.
- Environmental and Construction Permitting. Developed and organized the Federal, State and local permitting strategy and agency outreach as the leader of the Permitting Team.
- Government Relations. Forged and maintained strong relationships with key federal officials, regulators, and New York and New Jersey elected officials at state and local levels.
- Community Outreach and Public Awareness. Orchestrated and successfully led public education efforts with the public and with civic groups
- Engineering and Technical Design Team Management. Spearheaded efforts of Owner's Engineers and Technical Design subcontractors on critical path items, life-cycle engineering and budgets.

Libra Foundation, **Portland** *Senior Program Development Consultant 1998-2001*

- Investigated, developed, coordinated, implemented and oversaw long-range programs and special projects undertaken by Libra Foundation, a Maine-based nonprofit foundation with over $320 million in assets.

Tom Allen for US Congress Campaign, Portland *Policy and Research Director 1996-1997*

- Researched and developed policy for the candidate in his successful challenge for Maine's 1st US District.

United States Navy *Lieutenant Commander, Surface Line Officer 1985-1996*

- Managed personnel, oversaw budgets, designed long range and tactical planning of several divisions and departments on naval combatants in a variety of management positions.

EDUCATION

Harvard University, John F. Kennedy School of Government, Cambridge, MA, Public Administration, 1998
Defense Language Institute, Monterey, CA, Certificate of proficiency in German Language, 1989
Maine Maritime Academy, Castine, ME, Bachelor of Science, Marine Engineering, 1985

WILLIAM F. WALL

PROFILE

Worldwide marine construction professional with over 30 years of experience specializing in submarine cable and utility installation and maintenance.

EXPERIENCE

Deepwater Wind LLC

Vice President, Development

Oversees all offshore logistical planning and meteorological deployment activates. Responsibilities range from third party contract negotiation to budgetary planning.

Caldwell Marine International 2003 – 2007
General Dynamics *VP Business Development* 2001 – 2003
Margus Co. Inc. *Vice President* 1983 – 2001
Cable & Wireless Marine Sub. *Cable Engineer* 1972 – 1983
British Telecom OSP Engineer 1968 – 1972

Summary of Skills:

- In-Depth knowledge of the complete submarine cable & utility procurement and implementation process
- Sales, marketing and contract negotiation experience covering the complete spectrum of marine projects, including risk management, insurance, indemnity, warranty and other contract areas
- Project development & financing
- Labor & project staffing experience in the NY*I*NJ marine market
- Hands-on project management experience in marine construction and submarine utility projects including submarine cables and pipelines
- Qualified in all aspects of submarine utility burial and embedment

Representative Projects:

- *Long Island NY:* 345kV NYPA Submarine cable project - Lay & burial of 4 EHY SCFF cables across LI Sound. Project Manager for cable embedment.
- *Rockland ME:* Fox Island Project - Turnkey supply and installation of 16kM of 35kV *3/C* submarine cable buried to 2m burial depth.
- *Long Island NY:* ConocoPhillips Project - Major marine construction upgrade to the ConocoPhillips offshore loading facility in Long Island Sound, including the installation of 60" diameter mono-piles, 170' in length.
- *NYC Harbor NYINJ:* USACE Pipeline Recovery Project - Survey, location and recovery of approximately 22 out-of service submarine pipelines. Work included QC procedures including strict adherence to environmental concerns of recovering aging submarine pipelines.
- *Long Island NYlNorwalk CT:* Cross Sound Cable - Standby repair contract for the HVDC submarine cable system connecting Connecticut and New York across LI Sound.
- *London, England:* Centrica Project - Consultant engineering contract to advise a major UK energy company on the installation of Round 2 offshore wind farms in shallow water offshore the east coast of England. Desk Top Study presented to Centrica upper management in London.
- *San Juan Islands WA:* Turnkey supply and installation of a 69kV *3/C* submarine cable system inter-connecting 4 islands. All buried to 2m burial depth.

EDUCATION

City & Guilds Engineering Institute London, England

Final Certificate 1975 - 1979

CLINTON L. PLUMMER

PROFILE

Entrepreneurial development professional experienced in team-building, project origination and complex sales, analytics and modeling, deal-making and negotiations, financial structuring and asset underwriting.

EXPERIENCE

Deepwater Wind LLC

Vice President, Development

Manages all early stage development activates for Deepwater Wind, LLC. Responsibilities include project feasibility assessment, environmental planning, and financial modeling.

Endurant Energy LLC (a portfolio company of Rho Capital Partners, Inc.) Hoboken, NJ

Vice President, Asset Development and Underwriting 2006 - 2007

- Built and led a small internal team (one deal attorney and one analytic support person) focused on development of distributed energy assets in Eastern United States.
- Originated and led asset underwriting for (i.e. site assessment, project concept development, financial modeling, credit risk analysis, etc.) a US$l00 million pipeline of distributed energy projects.
- Designed a documentation structure, managed a team of attorneys which created forms of agreement and negotiated commercial terms for the development of a 5MW landfill-gas-to-power project.
- Structured, among others deals, a joint-venture with a leading Real Estate Investment Trust for the development of a 6 MW co-generation system at the 4th largest building in New York City.
- Secured a total of approximately US$15.5 million in government incentive funding for the development of ten separate power generation projects.

Redwood Power Company, Inc. Cambridge, MA

Founder and President 2004 - 2006

- Founded and led Redwood to develop retail (i.e. "behind-the-meter") distributed power generation projects which offered rates of return acceptable to private equity investors.
- Originated and developed distributed power generation projects in commercial office buildings owned by large real estate investment trusts (e.g. Boston Properties, Trizec Properties, among others).
- Managed the legal team which created forms of agreement and development documents for all deals
- Developed structure, negotiated terms and secured US$50 million equity line of credit for investments in distributed power generation projects.
- Sold development pipeline to Endurant Energy in 2006; resulting in a 7.5% year-over-year return to all investors in Redwood.

Massachusetts Institute of Technology Cambridge, MA

Research Associate, Engineering Systems Division 2003 - 2004

- Researched and co-authored whitepapers on applications of auction theory.

EDUCATION

Massachusetts Institute of Technology Cambridge, MA

Master of Engineering 2002 – 2003

- Coursework in Engineering Systems Analysis for Design, Probabilistic Systems Analysis, System Dynamics, Dynamic Pricing, Finance Theory and Asset Pricing Models.
- Research and master's thesis exploring applications of auction theory.

The Ohio State University, Fisher College of Business Columbus, OH

Bachelor of Science in Business Administration, Magna Cum Laude, with honors 1998 - 2002

- Honors include Dean's List, 1998-2002. National Society of Collegiate Scholars, 1999. Fisher College Honors Cohort, 2000-2002. Vice-President, Fisher College Pace Setter Student Award, 2001. Dean's Leadership Committee Chairman, 2001-2002. Robert E. Georges Pace Setter Senior Award, 2002.
- Internships with C.R. Robinson, ABB (Asea Brown Boveri) Automation and Owens Corning.
- Extemship with Arthur Andersen Business Consulting.

Commission Data Request 5-3

Request:

Please provide an updated status of the Transmission Cable Purchase Agreement.

Response:

National Grid has provided a draft agreement to Deepwater for its review and comment. National Grid understands that Deepwater is reviewing this draft and will be providing comments to National Grid.

Prepared by or under the supervision of: Daniel E. Glenning