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March 22, 2019

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

**Re: *Docket 4929 - The Narragansett Electric Company
d/b/a National Grid Review Of Power Purchase Agreement
Pursuant To R.I. Gen. Laws §39-31-1 to 9***

Dear Ms. Massaro:

Enclosed please find an original and nine copies of:

1. DWW Rev I, LLC's Response to the Rhode Island Public Utilities Commission's Second Set of Data Requests.

Please note that an electronic copy of this document has been provided to the service list.

Thank you for your attention to this matter.

Sincerely,



Joseph A. Keough, Jr.

JAK/kf

cc: Docket 4929 Service List (*via electronic mail*)

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION**

IN RE: THE NARRAGANSETT ELECTRIC COMPANY :
d/b/a NATIONAL GRID REVIEW OF POWER : **DOCKET NO. 4929**
PURCHASE AGREEMENT PURSUANT TO :
R.I. GEN. LAWS §39-31-1 TO 9 :

**DWW REV I, LLC’S RESPONSE TO THE RHODE ISLAND PUBLIC UTILITIES
COMMISSION’S SECOND SET OF DATA REQUESTS
(DATED MARCH 12, 2019)**

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Comm. 2-1: If the Delivery Facilities allow for incremental generation beyond the Contract Maximum Amount associated with the contract facility (Revolution I), please explain if energy generated by Revolution I would have priority of incremental generation in a transmission-constraint or curtailment event on the Delivery Facility.

Response: The Revolution Wind Project is currently an approximately 700 MW project, 400 MW of which is contracted to The Narragansett Electric Company d/b/a National Grid. Regardless of whether the Delivery Facilities allow for incremental generation beyond that 700 MW, in the event of a transmission constraint or curtailment, which specific wind turbine generators will be curtailed will be determined by a number of factors. These include the actual wind conditions, the wind farm's operating procedures, manufacturer guidelines, whether there were machines that were already offline (for example due to planned or unplanned maintenance) and permitting constraints (if any). Further, any curtailment would need to be consistent with ISO-NE's open access transmission tariff on file with FERC.

Prepared by or under the direction of Brook Knodel

Comm. 2-2: Referencing section 3.2 of the PPA on Bates page 67 of National Grid's filing, what is the latest date the Facility can achieve commercial operation and avoid Delay Damages?

Response: The Facility has a "Guaranteed Commercial Operation Date" of January 15, 2024, as established in Section 3.1(a). As set forth in Section 3.1(d), the Seller may extend the Guaranteed Commercial Operation Date by up to twenty-four months if an event of Force Majeure, pursuant to Section 10.1, has occurred that prevents the Seller from achieving the Commercial Operation Date. As set forth in Section 3.1(c), the Seller may also extend certain Critical Milestones, including the Guaranteed Commercial Operation Date, by up to four six-month periods – for a total of twenty-four months – in addition to any extension resulting from a Force Majeure event under Section 10.1, by posting additional Development Period Security in the amount of \$2,000,000, for each six-month extension. Therefore, pursuant to Section 3.2, the latest date that the Facility could achieve commercial operation and avoid Delay Damages would be January 15, 2026 if there is no event of Force Majeure, and would be January 15, 2028 in the event of the maximum-allowable two years of Force Majeure.

Prepared by or under the direction of Clinton Plummer

Comm. 2-3: Regarding the Block Island Wind Farm

- a. How many full-time jobs are associated with the facility?
- b. How many temporary job-years are associated with the facility?
- c. Regarding the full-time jobs noted in part c, please provide the fraction of full-time jobs held by residents in Rhode Island, Massachusetts, all other New England States, all other states, and all other countries.
- d. Regarding the temporary job-years noted in part b, please provide the fraction of job-years held by residents in Rhode Island, Massachusetts, all other New England States, all other states, and all other countries.

Response: The responses below identify jobs directly associated with the Block Island Wind Farm (BIWF).

However, it is important to note that the BIWF was the catalyst for the growth of the company. When Deepwater Wind first opened its office in Rhode Island, the company had 2 employees based in its Providence office. In 2010, when development of the BIWF began in earnest, the company had 10 full time employees, two of whom were Rhode Island residents. By 2019, the company had grown to almost 40 employees, over 25% of whom live in Rhode Island and over half of whom work out of the Providence and Block Island offices.

a. During the development of the BIWF, Deepwater Wind Block Island (DWBI) committed that post-construction, operation and maintenance would require approximately 6 permanent full-time equivalent (FTE) jobs. DWBI has significantly exceeded this commitment. The BIWF currently supports 14.5 permanent FTE jobs.

b. There are 12 temporary job-years associated with the BIWF.

c. Over 70% of the total, 10.5 permanent FTE jobs are currently held by Rhode Island residents. Table 1 provides details on these full-time equivalent jobs. Please note, jobs based in New York and North Carolina are based in specialized control centers.

Table 1: DWBI Full-Time Equivalent Jobs.

Role	Contractor	Full-Time Equivalent (FTE) Jobs	Notes	Residence (FTEs)
Asset/Operations Manager	Ørsted	1		Rhode Island
Project Engineer	Ørsted	1		Rhode Island
Balance of Plant Technicians	Ørsted	1		Rhode Island
Site Manager	GE	1		Rhode Island
On-Site Turbine Technicians	GE	5		Rhode Island
Remote Monitoring: Turbine Performance	GE	2	Based in GE's NY facility	New York
Remote Monitoring: Grid Compliance	Duke	2	Based in Duke's NC facility	North Carolina
Crew Vessel Captain /Mate/ Management	Rhode Island Fast Ferry	1.5		Rhode Island
Total		14.5		

d. Table 2 provides an overview of DWBI temporary job years. The BIWF turbines are highly sophisticated machines. During annual planned maintenance, GE supplements their Rhode Island based technicians with specialty technicians who have specific expertise to efficiently execute the annual maintenance scope. These specialty technicians are globally based and spend the majority of the year traveling from project to project.

Table 2: DWBI Temporary Job-Years.

Role	Contractor	Temporary Job Years	Notes	Residence
Specialized Technicians	GE	12	Specialty technicians with expertise	Various
Total		12		

Prepared by or under the direction of Paul Murphy and David Hang

Comm. 2-4: Regarding Revolution I:

- a. Please provide the fraction of full-time jobs expected to be held by residents in Rhode Island, Massachusetts, all other New England States, all other states, and all other countries.
- b. Please provide the fraction of temporary job-years held by residents in Rhode Island, Massachusetts, all other New England States, all other states, and all other countries.

Response: As detailed in Table 5-1 of the Navigant “*Advisory Opinion on the Economic Development Benefits of the Revolution Wind Project*,” each of the Seller’s consultants has independently estimated Revolution I’s job creation in the State of Rhode Island to be as follows:

	Navigant 10/1/2018	Brattle 5/29/2018
Direct Operations-Phase Full-Time Jobs (Annual FTEs)	32	32
Direct Construction-Phase Temporary Jobs (Total FTEs)	812	841

In each case, these job-creation estimates have been generated by economic models that account for jobs that would be performed for the Revolution Wind project within the State of Rhode Island. These models do not consider the residency of the individuals performing these jobs; instead, they estimate the jobs that would be performed within the borders of the State.

The foregoing notwithstanding, Seller has previously executed binding agreements to use local labor for the construction of the Block Island Wind Farm and worked collaboratively with regional construction and building trades. For the Revolution Wind work that is conducted in Rhode Island, the Seller has committed to negotiate similar agreements with organized labor to support construction of the Facility, as was anticipated in Section 14.3 of the Seller’s 83C proposal and the letter of support submitted with our Rhode Island proposal from the Rhode Island Building & Construction Trades Council.

The Seller believes that its plans for the development, construction, operations and maintenance for Revolution Wind will result in the levels of job creation estimated by these consultants.

Prepared by or under the direction of Clinton Plummer

Comm. 2-5: Please explain if and what contractual or non-contractual commitments for local jobs and economic growth have been made in association with proposals for offshore wind projects in Connecticut, Massachusetts, and New York. Please also explain if and how these commitments were considered when estimating the jobs and economic impact Revolution I would have on Rhode Island.

Response: Introduction. The Seller and its affiliates currently have power sales contracts for two projects in New England¹ and have outstanding power sales offers, including one each in Rhode Island and New York²:

- ***South Fork Wind Farm***, which has been awarded two power purchase agreements from the Long Island Power Authority (New York);
- ***Revolution Wind***, which was awarded this 400 MW power purchase agreement by Rhode Island and four additional power purchase agreements in the State of Connecticut totaling approximately 300 MW, two of which have been executed and approved and two of which are in development. Additionally, the Seller has offered two proposals from Revolution Wind in response to Rhode Island's 2018 renewable energy solicitation – 104 MW and 352 MW, respectively; and
- ***Sunrise Wind***, a project concept proposed to New York State having sizes ranging from approximately 400 MW to 880 MW, subject to selection by New York State Energy Research and Development Authority (NYSERDA).

We have developed a plan for performing the construction and operations work associated with these offshore wind farms in the northeast United States. Given the importance of Rhode Island in our company's plans for executing the construction and operations of these several projects, we plan to perform within Rhode Island several aspects of the construction and operations of projects that will deliver clean energy to neighboring states. In this way, Rhode Island will benefit not only from the economic activity associated with Rhode Island's purchase of 400 MW from Revolution Wind, but also from activity associated Connecticut's power contract with Revolution Wind and New York's power contract for the South Fork Wind Farm.

In the April 20, 2018 response to Rhode Island's questions regarding bids submitted in the 83C process, the Seller committed to locating in Rhode Island significant components of work from three separate projects: (1) the South Fork Wind Farm; (2) the 400 MW that Rhode Island has purchased from Revolution Wind; and (3) the 200 MW that Connecticut has purchased from Revolution Wind. These commitments were conditioned on the selection and approval of our

¹ Other affiliates of Ørsted US Offshore Wind are developing two additional offshore wind projects to serve Maryland and New Jersey, respectively. Neither of those projects has made any economic development commitments to New England states or New York and therefore are not discussed in this response.

² The Seller is also engaged in bilateral discussions with other potential power buyers. None of these potential transactions are discussed in this response, because even if consummated, they will not diminish job creation in Rhode Island, and may have a positive impact.

Revolution Wind offer to Rhode Island. We are standing by those offers. The work performed for projects contracted by other states is expected to result in approximately 330 full-time equivalent (FTE) job-years in Rhode Island during the project's construction, in addition to the approximately 840 FTEs during construction of the Revolution Wind project associated with the 400 MW purchased by Rhode Island. Rhode Island is benefitting from awards by other states. Collectively, the Revolution Wind project is expected to deliver approximately 1,170 FTE to Rhode Island, of which, over 25% are associated with capacity purchased by other states.

Contractual or non-contractual commitments for local jobs and economic growth. Generally speaking, the various commitments that the Seller has made to create local jobs and economic growth have not been reduced to contracts. However, the Seller intends to honor those commitments. Those commitments are described below.

The approximately 1,170 FTEs that the Revolution Wind project is expected to deliver to Rhode Island will result from the various activities that the Seller has committed to undertake in the state. To ensure that the work is properly staffed, the Seller is working with the Rhode Island Building and Construction Trades Council.

Because no one port in the region is capable of handling all the construction-phase work necessary to support a project of the scale of the Revolution Wind project, the Seller plans to construct the Revolution Wind project using multiple regional ports, including ProvPort and/or Quonset in Rhode Island, as well as the Port of New London in Connecticut³. Discrete scopes of work are planned for each port.

In Rhode Island, the Seller has committed to make \$40MM in port upgrades and associated infrastructure to support foundation fabrication and other construction and operations activities. After the Revolution Wind project is built, these upgrades will be available for future projects. Major steel fabrication for the Revolution Wind project (not just the 400 MW associated with Rhode Island's portion of the Revolution Wind project) as well as the South Fork Wind Farm, are planned to be executed in Rhode Island.

Significant portions of the long-term operations and maintenance of the Revolution Wind project are planned to be executed in Rhode Island.

The Seller has committed to commissioning a new crew transfer vessel from a Rhode Island shipyard.

Finally, it is worth noting that the Seller has committed \$4.5MM to support local university-led research focused on offshore wind and that the Company's Providence headquarters continues to grow.

³ The construction logistics plan for the Revolution Wind project does not currently contemplate any work being performed in the Commonwealth of Massachusetts.

In Connecticut, economic development commitments were noted as a condition of the award. They are:

- A \$22.5MM investment in the New London State Pier, which will be used to support construction and marshaling activities.
- Project construction activities being performed in New London.
- Commissioning a new crew transfer vessel from a Connecticut-based boat builder.
- Opening and staffing a new development office in New London.
- Consulting with the Eastern Connecticut Workforce Investment Board and their existing workforce programs for opportunities for workforce development.
- Providing local businesses with opportunities to participate in the development process that will include local content targets established in consultation with the State.

The commitments made in connection with the South Fork Wind Farm are relatively limited. The Company committed to site that wind farm's operations center in Montauk and to use good faith efforts to staff that center with residents of the east end of Long Island. The Company also committed to using Long Island based union labor to construct the terrestrial portions of the project that are located on Long Island.

The economic development commitments offered to New York in connection with the Sunrise Wind bid are similar in magnitude to what was offered to Connecticut, although with less construction work and more operations work. Note that NYSERDA has not selected this project, so at this stage the following are in the nature of offers and not commitments.

- Commitment to establish, maintain and staff a new local office in New York City.
- Hiring equipment, cranes and other material from New York companies for work to be conducted at the preassembly harbor (which is not located in New York) for use in constructing the Sunrise Wind project.
- Purchase of material, transport and secondary steel work for the Sunrise Wind project.
- A commitment to use local union labor to build on-shore transmission and the on-shore substation for interconnecting the project in New York state.
- Establishing a New York operations headquarters, O&M base, SOV and CTV domiciles in New York to support the Sunrise Wind project, and refurbishment of existing facilities for use as the O&M base.
- Funding to establish the National Offshore Wind Training Center at Suffolk County Community College, in partnership with BlueGreen Alliance, AFL-CIO, Building and Construction Trades Council, UWUA.

None of the economic development commitments of Revolution Wind to Connecticut conflict with or diminish those offered to Rhode Island in connection with this Power Purchase Agreement, nor do any of the economic development commitments of Sunrise Wind to New York, in connection

with our proposals to New York, conflict with or diminish any of the commitments of Revolution Wind to Rhode Island.

How economic development commitments were considered.

In preparing the initial construction logistics plan for the Revolution Wind project, the Seller carefully considered the potential to maximize job creation within Rhode Island, and position Rhode Island to take advantage of economic development opportunities associated with the larger regional offshore wind market. Considerations include, but are not limited to, the following:

- In the population-dense northeast, no one port has sufficient area to serve the full needs of the offshore wind industry in the region. Accordingly, the Seller plans to use multiple ports in multiple states to support this growing industry.
- Rhode Island is well positioned near the existing offshore wind leases in the northeast which allows it to serve a port for projects from multiple states both during construction and operations.
- Rhode Island's major ports require passing under the Newport Bridge. The bridge limits the height of vessels that can access ProvPort and Quonset. To maximize the potential use of these ports, the Seller has focused on scopes of work in Rhode Island with associated vessels that can fit below the Newport Bridge and can therefore access Rhode Island ports.
- Specifically, the Seller has focused on scopes of work that are required for the Revolution Wind project and required for subsequent projects. This is to allow Rhode Island's companies and workforce access to a portfolio of projects in the northeast as the offshore wind industry expands over the next decade.
- The US offshore wind industry remains in its infancy. The Seller's investments are expected to further Rhode Island's position as a first mover and as the home for key scopes of work. Due to the current relatively limited overall market size, some specific scopes (e.g. turbine fabrication) are expected to continue to take place in Europe.

Prepared by or under the direction of Clinton Plummer

Comm. 2-6: Please explain if and what contractual or non-contractual commitments for local jobs and economic growth have been made in association with proposals for offshore wind projects in Connecticut, Massachusetts, and New York. Please also explain if and how these commitments were considered when estimating the jobs and economic impact Revolution I would have on Rhode Island.

Response: Please see our response to Questions 2-4 and 2-5.

Prepared by or under the direction of Clinton Plummer

CERTIFICATION

I hereby certify that on March 22, 2019, I sent a copy of the within to all parties set forth on the attached Service List by electronic mail and copies to Luly Massaro, Commission Clerk, by electronic mail and regular mail.

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DOCKET NO. 4929
 Response from DWW Rev I, LLC
 to the Rhode Island Public Utilities Commission's
 Data Requests (Set 2)
 (Issued March 12, 2019)

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