

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

IN RE: DISTRIBUTED GENERATION (DG)
STANDARD CONTRACTS
AND CEILING PRICES FOR 2014

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DOCKET NO. 4288

**BRIEF OF
WIND ENERGY DEVELOPMENT, LLC**

By its attorneys, Wind Energy Development, LLC (WED), hereby objects to the Distributed Generation Contract Board's (the Board) proposed 2014 contract target and ceiling prices for large wind projects. The purpose of the Distributed Generation Standard Contract Act (the Act) is:

to facilitate and promote installation of grid-connected generation of renewable energy; support and encourage development of distributed renewable energy generation systems; reduce environmental impacts; reduce carbon emissions that contribute to climate change by encouraging the local siting of renewable energy projects; diversify the state's energy generation sources; stimulate economic development; improve distribution system resilience and reliability; and reduce distribution system costs.

R.I. Gen. Laws §39-26.2-2. These purposes are not served when the Board and the Office of Energy Resources (OER) refuse the most pertinent data, refuse to share data and allow insufficient time and consideration of pricing and contract targets for wind, a cost effective and an abundant resource available to the Distributed Generation program.

FACTS

The Board develops proposed ceiling pricing through the development of a pricing model developed by the National Renewable Energy Laboratory, called the CREST model. The model allows for the input of projected values for anticipated project revenues and expenses and then will

generate a price necessary to support a reasonable, pre-established rate of return on investment (IRR). OER hired a consultant and developed the pricing before the Board was formed in 2013. Now the Board sets the class targets and prices. OER originally set the IRR at 13% for the first round of pricing in 2012 and reduced the IRR to 12% for the 2013 ceiling prices. The Board now proposes to hold the IR at 12% for the 2014 pricing.

There was little actual data from 1500kW wind projects in Rhode Island upon which to base the 2013 ceiling prices.¹ The 2013 ceiling prices for wind were very substantially lower than those developed for any other technology. They were particularly low relative to other active technologies; more than \$.10/kw cheaper than any of the ceiling prices developed for solar energy. Even still, so far 1500kW-sized wind projects have produced or committed to produce approximately one quarter of the total volume of energy produced and committed to production through the Act. Many 1500kW wind projects have now been completed and more projects have gone through substantial planning; all generating data that is valuable for the accurate assessment of anticipated project revenue and expenses.

WED was a dedicated participant in all the public comment periods and meetings used to develop the 2014 class target and ceiling price proposal. WED conducted a very thorough collection and analysis of input data and consistently fed comments and data into the process that clearly and indisputably indicated the most accurate data points for input into the pricing model for large wind. OER and the Board's consultant, Sustainable Energy Associates (SEA), first requested stakeholder comment on the input assumptions on October 2, 2013. WED responded on October 7, 2013, with input on all requested factors for the CREST model and policy comments, including input on the real capacity factor for wind in Rhode Island and actual, audited project construction costs. October 7,

¹ That is the main reason WED did not advocate much on the 2013 pricing, only objecting to a last minute price reduction based on the federal government's renewal of the Investment Tax Credit, despite the lack of any stakeholder process or input for that adjustment. WED's objection was overruled by the Commission.

2013 Comments attached as **Exh. A**. On October 22, 2013, SEA issued its first round of pricing for review at the first stakeholder meeting, mistakenly noting that it had only received substantive comments from solar developers. Despite WED's comments, the first set of proposed pricing matched the 2013 pricing .187/kWh with no federal incentives and .1480/kWh with all federal incentives except bonus depreciation. WED requested the source of data used to support SEA's input assumptions but did not receive that information.

On November 7, 2013, OER presented an allocation plan allotting 1,500kw to large wind in each enrollment unless large wind projects chose not to enroll. On November 14, 2013, WED provided comments on the proposed contract targets, seeking flexibility to move wind allocations between enrollments (annual and in each year) given the challenges predicting when wind projects will be ready to apply to the program. November 14, 2013 Class Target Comments attached as **Exh. B**.

In response to SEA's decision not to alter the ceiling price for large wind despite WED's comments, WED hired an accountant to study and reproduce the CREST model based on accurate inputs. On November 11, 2013, WED provided extensive comments, including detailed back-up on the inaccuracy of SEA's proposed CREST model inputs of particular concern, including capacity factor, interconnection and construction cost. At that time, WED also produced a copy of its own run of the CREST model based on corrected assumptions, indicating the need for a price of \$.22 with federal incentives in order to generate a 12% IRR. November 11, 2013 Comments attached as **Exh. C**. On November 14, 2013 SEA and OER presented revised ceiling prices for wind. The revised pricing increased the interconnection cost from \$100/kW to \$150/kW and reduced the capacity factor from 27.5 percent to 26 percent resulting in the following prices: \$.1965/kWh with no federal incentives and \$.156/kWh with all federal incentives. The revised pricing still did not account for WED's data inputs on critical factors from actual Rhode Island wind projects, including capacity

factor, construction costs, interconnection costs and the impact of the federal incentives. SEA's November 14, 2013 pricing presentation did provide the source of information supporting its assumption on capacity factor, data from projects located on the coastline in southeastern Massachusetts and not from the seven Rhode Island projects supporting WED's comments. At the November 14 meeting, OER and the Chairman of the Board requested WED's input on the objective factors that contributed to the data it had supplied and on November 15, 2013, WED produced that analysis. Attached as **Exh. D**. Once again, WED requested the source of data on the other inputs of substantial concern but received no response, leaving WED uninformed regarding the rationale for rejecting its input data from actual Rhode Island wind projects.

On November 27, 2013, OER presented revised contract targets. The proposed class target for large wind was reduced to 1500kW for two enrollments rather than for all three enrollments, eliminating contract availability for one wind project in 2014. When asked why the annual contract target for large wind had been reduced, OER stated that it was because of the number of wind projects that had been proposed for the program in the past and the increasing price for wind relative to solar. The November 27, 2013 proposed contract targets were presented to the Board for approval at its December 2, 2013 meeting.

WED presented its position to the Board at its December 2, 2013 meeting. WED advocated for restoration of the 4500kW annual allotment for wind, noting that the history of enrollment for wind projects was not indicative of their readiness for contracts and that the proposed 2014 ceiling price for wind remains substantially lower than those proposed for all other technologies. The Board did not mention any consideration of WED's position on the wind allotment in its December 2, 2013 decision, approving the proposed, reduced allotment.

WED presented its position on the proposed ceiling price for wind, noting SEA's repeated refusal to incorporate actual data from operating and planned large wind projects in Rhode Island or to produce the data supporting its assumptions. At that meeting WED outlined the basis for its most significant input assumptions, capacity factor and construction cost. In response to that presentation, board members expressed concern about transparency and the accuracy of the inputs carried in the CREST model for wind, but noted that they had insufficient time to weigh contradictory data before the pricing needed to be finalized for submission to the Commission. The board members evidently had not seen back-up data from SEA or WED's data on specific inputs and therefore felt they lacked time to do anything more than simply approve of SEA's proposal. In response to the Board's concerns, SEA noted that it had relied not only on actual data from developed and planned wind projects but also on the hypothetical potential for the development of Rhode Island wind projects with superior economics.

ARGUMENT

The Act provides a standard of review for the Board's filing. "In reviewing the recommended ceiling prices the commission shall give due consideration to the recommendations and report of the board and the standards set forth in subsection (a) of this section." R.I. Gen. Laws §§39-26.2-4(e), 5(b). The referenced standards are provided and discussed in section II below.

I. The Board did not Consider and Improperly Approved the 2014 Contract Target for Wind.

The Board did not allow the statutorily required sixty days for approval of the revised contract target for wind. The Distributed Generation Standard Contract Act (the "Act") states that "The board may add, eliminate, or adjust renewable energy classes for each program year with public notice

given at least sixty (60) days previous to any renewable energy class change becoming effective.”

R.I. Gen. Laws §39-26.2-3(11). The reduction of the annual allotment for wind in 2014 from a total of 4500kW to 3000kW was first proposed and presented to stakeholders on November 27, 2013. It was presented to the Board for approval and approved on December 2, 2013. The Act requires approximately 55 more days for stakeholder input and Board consideration.

The Board approved the reduced contract target for large wind without the consideration required by law. The change in the 2014 contract target for large wind was approved over WED’s objection and advocacy without any discussion of WED’s position. The Act clearly requires that the Board must make any change in the allotments. Id. The purposes of the Board are to:

- (1) Evaluate and make recommendations to the commission regarding ceiling prices and annual contracting targets, the make-up of renewable energy classes, and the terms of standard contracts under the provisions of this chapter;
- (2) Provide consistent, comprehensive, informed and publicly accountable involvement by representatives of groups impacted by, involved in, and knowledgeable regarding the development of distributed generation projects that are eligible to enter into standard contracts; and
- (3) Monitor and evaluate the effectiveness of the distributed generation standard contracting program for the purchase of the energy output of distributed renewable generation projects.

R.I. Gen. Laws §39-26.2-10(b). None of these purposes are served by allowing the Board insufficient time to consider contracting targets or neglecting to weigh data and advocacy presented at the one meeting during which the Board considered and approved the too lately proposed contract targets.

II. The Board did not Weigh the Proper Factors in Approving the 2014 Ceiling Price for Wind.

There was little actual data from 1500kW wind projects in Rhode Island upon which to base the 2013 ceiling price; thus the 2013 pricing was mere guesswork and was not indicative of the actual economics of developing large wind projects in Rhode Island. The 2013 prices were set without the

benefit of Rhode Island specific data and, therefore, were fundamentally unreliable with regard to the objective of the Act. Data from newly developed and planned projects is essential to properly inform the inputs for the CREST model and WED hopes its advocacy here will help ensure that it is.

a. *The Consultant Did Not Properly Consider the Principal Pricing Factor.*

The Board's consultant, Sustainable Energy Advantage, did not apply the statutory criteria in its development of the proposed 2014 ceiling price for wind. The Act states that:

The ceiling price for each technology should be a price that would allow a private owner to invest in a given project at a reasonable rate of return, based on recent reported and forecast information on the cost of capital, and the cost of generation equipment. The calculation of the reasonable rate of return for a project shall include where applicable any state or federal incentives including but not limited to tax incentives. In setting the ceiling prices, the board also may consider: (1) Transactions for newly developed renewable energy resources, by technology and size, in the ISO-NE region and the northeast corridor; (2) Pricing for standard contracts received during the previous program year; (3) Environmental benefits, including, but not limited to, reducing carbon emissions, and system benefits; and (4) Cost effectiveness.

Id. at §39-26.2-5(a). The Board's filing states that the consultant considered the following factors in setting the ceiling prices:

- (1) State and federal incentives including tax credits;
- (2) Transactions for newly developed renewable energy resources, by technology and size, in the ISO-NE region and the northeast corridor;
- (3) Pricing for standard contracts received during the previous program year;
- (4) Cost effectiveness; and
- (5) Public comments and data received from stakeholders and the community.

Board filing at p. 6. This list notably omits the single criterion upon which prices must be set: "a price that would allow a private owner to invest in a given project at a reasonable rate of return, based on recent reported and forecast information on the cost of capital, and the cost of generation equipment." Even if this omission is merely a drafting error, it is indicative of a process that neglected data input regarding the actual economics of Rhode Island projects.

WED clearly informed the Board that Rhode Island wind and project data gathered from seven operating and studied wind projects supported an average capacity factor of 22.5%. SEA ultimately agreed to reduce its proposed capacity factor from 27.5% to 26%. SEA's capacity factor input was evidently based on coastal projects from southeastern Massachusetts despite WED's data from actual Rhode Island projects and WED's explanation that ideal coastal siting conditions are not the current reality for Rhode Island. **Exh. D.** This inaccuracy of the carried capacity factor has a major impact on the economics as a direct and substantial multiplier for anticipated project revenues.

WED presented back-up for the reality that wind turbines cost \$3,757/kw to construct in Rhode Island. See **Exh. C.** The back-up included fully audited statements of the cost of constructing large wind projects in Rhode Island. At the request of OER and the Board's chair, WED also produced an objective explanation of why the construction costs might be higher here in Rhode Island than SEA may see in other jurisdictions. See **Exh. D.** SEA never changed the project construction cost for wind turbines from the assumption carried in the 2013 pricing model and never provided the basis for its position on construction cost.

The consultant did not consider environmental benefits as a factor in setting ceiling prices for wind despite WED's advocacy for that. Environmental benefits are one of the Act's factors that the Board may consider in setting its pricing, listed just before "cost effectiveness." The Act invites but does not require the Board to consider environmental benefits, just as it does cost effectiveness. The Board is, however, required to set a price that allows a private owner to invest in a given project at a reasonable rate of return. It did not do that.

It is inapposite for SEA and the Board to propose pricing inputs based on the hypothetical capacity to develop Rhode Island wind projects with better economics when they can instead rely on actual data from developed and planned projects. At the December 2 Board meeting, SEA indicated

that it had not relied on data from existing and planned Rhode Island projects because it is possible that projects could be developed based on better economics. Given the existence of actual Rhode Island data on inputs such as capacity factor and construction costs, it was inappropriate for SEA or the Board to set pricing based on mere speculation.

- b. *SEA did not Give the Board Data Supporting or Refuting its Inputs to the Model and the Board was not Allowed Sufficient Time to Consider Data Inputs and Make its Required, Independent Assessment of the Proper Inputs for Pricing.*

The Board could not have satisfied the statutory requirement that the ceiling prices must “allow a private owner to invest in a given project at a reasonable rate of return.” R.I. Gen. Laws §39-26.2-5(a). Nor could it have met its purpose of providing “consistent, comprehensive, informed and publicly accountable involvement by representatives of groups impacted by, involved in, and knowledgeable regarding the development of distributed generation projects that are eligible to enter into standard contracts.” *Id.* at §39-26.2-10(b)(2). The Board evidently never had access to the backup for SEA’s input assumptions on reasonable projected costs and income. It did not receive WED’s actual data on revenue and expenses from Rhode Island projects until WED presented its ceiling price argument at the Board meeting on December 2. When it received WED’s argument on specific, important assumption items, Board members commented that they were not in a position to consider such specific input given what little time they had to approve the proposed pricing for submission to the Commission. The Board could not have done its job of determining whether the proposed pricing will “allow a private owner to invest in a given project at a reasonable rate of return” without evaluating the accuracy of assumptions SEA used to support its CREST model.

CONCLUSION

Wind projects of 1500kW or larger size have been an essential source of energy production to serve the many important purposes of the Act, including source diversification, distribution system

resilience and reliability, economic development, reduced environmental impacts and reduced distribution system costs. These projects can be equally or more important to the future, even greater fulfillment of these purposes. However, the viability of the on-shore wind industry is undermined by reducing the class targets in an already severely constrained program and by setting ceiling prices that do not allow a private owner to invest in a given project at a reasonable rate of return.

For the foregoing reasons, WED asks that the Commission for the following relief:

- 1) An Order restoring the 2014 contract target for wind to 4500kw; and
- 2) An Order integrating WED's data input from Rhode Island large wind projects into the CREST model to set an appropriate 2014 ceiling price for 1500kw wind projects; or
- 3) An Order remanding this process to the Board for reconsideration and for the issuance of an amended report and proposal to the Commission for large wind projects.

Respectfully submitted,


WIND ENERGY DEVELOPMENT, LLC

By their attorney,


Seth H. Handy (#5554)
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CERTIFICATE OF SERVICE

I hereby certify that on December 31, 2013, I sent a true copy of the document by electronic mail to the PUC and the service list and filed the original pleading and 9 photocopies with the PUC.


Seth H. Handy

October 7, 2013

42 Weybosset Street
Providence
Rhode Island 02903
401 626.4839
401 753.6306 FAX

Chris Kearns
Rhode Island Office of Energy Resources
One Capital Hill, 4th Floor
Providence, RI 02908

Re: DG Standard Contracts Ceiling Prices

Dear Chris:

I write to provide Wind Energy Development, LLC's comments on/for the ceiling price setting process.

- 1) Thank you for the additional time for the stakeholder group to provide comments. In the future, more time would be appreciated and would probably lead to more robust comments.
- 2) Please see the attached excel spreadsheet providing the requested input on project financials. WED asks for the opportunity to meet with you and/or Sustainable Energy Advantage and/or the Board to present more back-up information and discuss this input.
- 3) Last year's change to the price for wind based on the availability of the Investment Tax Credit at the eleventh hour, after completion of the stakeholder process and without allowing additional stakeholder input on that proposed change, undermined the integrity of this stakeholder process and discouraged participation. Please avoid such hasty revisions moving forward.
- 4) The decision to include the benefits of federal tax policy in these ceiling price calculations is required by the statute but is bad public policy for two reasons. First, this policy has the effect of discouraging locally sourced and controlled projects because there are few (if any) Rhode Island based investors that have the passive income against which to claim the credit. Second, the Investment Tax Credit is not worth what it purports to provide as project equity for these reasons:
 - a. It is difficult to find investors with appetite;
 - b. The time, effort and investment required to negotiate and document these deals with third party investors is often prohibitive.
 - c. The federal government does not administer these tax credit programs effectively. WED submitted paperwork for the 1603 grant last January

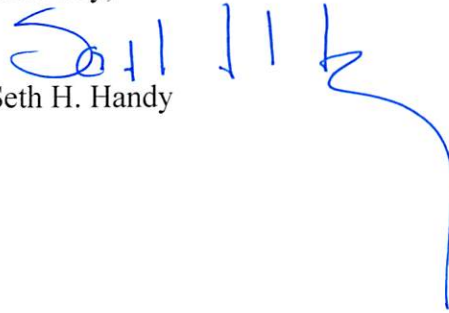
and has yet to receive the grant, putting severe financial strain (including but not limited to the cost of money) on that project.

- 5) Is a ceiling price setting process necessary given the recent revisions to the statute that require competitive bidding for all proposed projects, small and large? If the free and open market is the best way to establish current pricing why is there a need for any ceiling price or the time, labor and money that goes into setting it? Why not eliminate the ceiling price, saving time and money on the process and investing it toward other needs, of which there are plenty? We request consideration of another legislative amendment.
- 6) National Grid is charging these projects an interconnection tax from which it is exempt according to federal law. IRS Notice 88-129 and IRS letter rulings make it clear that when a qualifying facility transfers an intertie to a utility exclusively in connection with a sale of electricity by the qualifying facility to the utility, the utility does not realize income (no "Contribution in Aid of Construction"). Dual-use interties to a utility are treated as QF transfers (and, therefore, nontaxable) if, in light of all information available to the utility at the time of transfer, it is reasonably projected that during the first ten taxable years of the utility, beginning with the year in which the transferred property is placed in service, no more than five percent of the projected total power flows over the intertie will flow to the Qualifying Facility. OER should pursue this issue with National Grid and once it is fully resolved (but not before then), reduce the projected interconnection cost charged to these projects accordingly, for the good of the ratepayers.
- 7) The ceiling prices do not properly account for all the costs and benefits of renewable energy projects. Specifically, RI Gen. Laws §39-26.2-5(a)(3) states that the board may consider "environmental benefits, including, but not limited to, reducing carbon emissions, and system benefits" in the establishment of the ceiling prices. The failure to factor such benefits in to the pricing for these projects leaves these benefits undervalued and the projects underfunded.
- 8) The Office of Energy Resources should object (much more) strenuously to National Grid's reporting and policy advocacy claiming an "above market cost" for these DG projects. Last April OER reported to stakeholders an alleged \$35 million above market cost for these projects over 15 years. My understanding is that this opinion of above-market cost came directly from National Grid. However, I have participated in OER organized meetings regarding how to establish a true measure of cost for these projects (together with representatives from National Grid) and it is very clear from those meetings that we do not understand the real cost implications of these projects. To presume such substantial "above-market cost" without adequate foundation severely undermines this program and those seeking and hoping to use and support it.
- 9) The impact of increased property tax payments as a result of the development of renewable energy projects has not been addressed clearly to the disadvantage of project developers. Rhode Island lacks a clear State policy on property taxation for these projects and, as a consequence, they are taxed

differently in different local jurisdictions and it is challenging to assess tax impact on a statewide basis. In the absence of uniformity, the ceiling price should assume the most onerous taxation policy for these projects but it has not.

Thank you for the opportunity to comment.

Sincerely,


Seth H. Handy

cc. Mark DePasquale
Tim Bojar

November 14, 2013

Chris Kearns
Rhode Island Office of Energy Resources
One Capital Hill, 4th Floor
Providence, RI 02908

Re: DG Megawatt Allocation Plan

Dear Chris:

42 Weybosset Street
Providence
Rhode Island 02903
401 626.4839
401 753.6306 FAX

I write to provide Wind Energy Development, LLC's comments on the Megawatt Allocation Plan proposed on November 7, 2013. The realities and complexities of the process required for the development of wind energy requires more flexibility in enrollment allocations.

WED seeks to be as efficient and effective as it can in the development of wind projects but cannot always control the stream of project availability. So, while WED will attempt to generate projects for each enrollment it is entirely possible that no projects may be available for one enrollment while two projects are available for the next. Our understanding of the proposed plan is that if wind does not bid in any one enrollment, its allocation will be given to other technologies participating in that enrollment. This rigid allocation system is not necessary or desirable and WED asks OER to return to the policy of carrying unused wind allocations into the next enrollment. This policy has the added benefit of enhancing the cost effectiveness of the DG program.

The same principle applies to annual allocations. While WED will seek to develop 3 1.5MW projects per year, it's very possible that WED might not have 3 projects prepared to enroll in one year and then have more than 3 projects ready to enroll the following year. This need for flexibility should be accommodated given the value of the wind resources and the challenges that face wind project development.

Finally, it is particularly important that allocations proposed for 2013 be allowed to carry over to 2014. WED is skeptical that the awards for the last 2013 enrollment will be made in time for enrolled projects to meet the implementation deadline for the federal tax credits. If that occurs, projects will be substantially harmed by lack of access to the credit. Those projects will then need to be reorganized, a process that will slow down the project implementation schedule substantially. In that scenario, it is most equitable for the wind allocation to be carried in to the next year's allocation portfolio so that the wind project can re-enroll on a realistic implementation schedule.

Thank you for your consideration of these comments.

Sincerely,

Seth H. Handy



Wind Energy Development, LLC
1130 Ten Rod Road, Suite E102
North Kingstown, RI 02852
Phone: (401) 295-4998

WIND ENERGY DEVELOPMENT, LLC ('WED')

November 11, 2013

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November 11, 2013

Distributed Generation Standard Contracts Board
c/o Dr. Kenneth Payne

Re: 2014 Ceiling Prices

Dear Ken,

42 Weybosset Street
Providence
Rhode Island 02903
401 626.4839
401 753.6306 FAX

Wind Energy Development, LLC provides the attached memo and data to support its position on inputs for the 2014 CREST ceiling price model for 1.5 MW wind projects. We have tried to provide this data that is based on the actual development and operation of such projects in Rhode Island to Sustainable Energy Advantage, but the revised pricing clearly does not account for it. The power point that was released with the revised pricing last week did not even include specific inputs for wind, as it does for solar which is of great concern to us. Transparency is clearly a hallmark of the DG program, so that the market has a clear understanding and signal regarding program implementation. We request the revised CREST model through which Sustainable Energy generated the current ceiling price so that we can see where they have rejected WED's specific inputs and hopefully come to understand their position on the data produced in the stakeholder process. We would then request a meeting with the Board, OER and Sustainable Advantage to advocate for WED's position on these inputs. We do not see how there could be any better data set to support appropriate ceiling pricing for 1.5MW wind projects planned for development in Rhode Island since WED's information is directly derived from actual projects built, operating or planned in Rhode Island.

If the real economics of these projects is not accounted for in the 2014 pricing, then it will clearly not be reasonable to expect applications or enrollment in the wind sector. That would be a very regrettable and problematic result since wind is by far the most cost effective renewable energy technology implemented through the Distributed Generation Standard Contracts program.

Thank you for your consideration of this information. Please let us know if and when a meeting would be helpful to discuss these inputs

Sincerely,


Seth H. Handy

cc. Chris Kearns
Jason Gifford



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1130 Ten Rod Road, Suite E102
North Kingstown, RI 02852
Phone: (401) 295-4998

November 11, 2013

Wind Energy Development, LLC ('WED') has committed itself to building a program that would help meet the renewable energy goals for the State of Rhode Island, while also creating local jobs. Since the company was founded in 2009, Mark DePasquale (Founder) has personally invested upward of \$2.5 million in the development of the company and industry in the State. WED has been working with local towns and municipalities in an attempt to make renewable wind energy a reality in the state of Rhode Island. There have been many obstacles along the way, but one in particular now threatens our progress and the program itself in Rhode Island.

The State uses a CREST Model to calculate the ceiling prices each year per kW for wind energy production. While we agree with this model, we do not agree with many of the inputs. Prior to 2013, there was no actual wind data available in Rhode Island, so assumptions were made for the inputs into the CREST Model. Since this time, WED has made substantial progress and now, not only has the actual inputs from an existing turbine located in North Kingstown, but also has supporting input data from various other locations where we have installed or are hoping/planning to install wind turbines. WED is disappointed that these actual inputs were ignored and excluded from the CREST Model for the 2014 ceiling prices.

WED hired the accounting firm McGladrey and paid several thousand dollars in order to go through and fully understand the CREST Model and all the inputs. The outcome showed that project economics require a significantly higher ceiling price than that state is recommending. When the CREST Model was completed, including the actual data from both current projects as well as the existing turbine project at North Kingstown Green, the ceiling price does not provide for the state's 12% return on equity and is significantly under that 12% level. It will be impossible to gain interest from outside equity investors for projects proposed at the currently proposed ceiling price. Equity investors have repeatedly expressed that they are unwilling to invest in the state of Rhode Island due to the CREST Model containing inaccurate information.

The statute provides:

The ceiling price for each technology should be a price that would allow a private owner to invest in a given project at a reasonable rate of return, based on recent reported and forecast information on the cost of capital, and the cost of generation equipment. The calculation of the reasonable rate of return for a project shall include where applicable any state or federal incentives including but not limited to tax incentives. In setting the ceiling prices, the board also may consider: (1) Transactions for newly developed renewable energy resources, by technology and size, in the ISO-NE region and the northeast corridor; (2) Pricing for standard contracts received during the previous program year; (3) Environmental benefits, including, but not limited to, reducing carbon emissions, and system benefits; and (4) Cost effectiveness.

(Continued on Next Page)

WED expressed concerns and supplied actual data for the inputs in the State's CREST Model. On October 22nd, prior to the Alternative Energy Price Ceiling Meeting', Mark DePasquale (Founder of WED), Tim Bojar (Director of WED) and Seth Handy (Legal Advisor for WED) had a meeting with Chris Kearns and Jason Gifford to present the actual data to them in person. During this meeting and prior, WED requested the source of the assumptions that were used in the State's model (as to compare them with WED's actual inputs) and were denied this information. The only information provided was the standard PowerPoint presentation showing the price ceiling suggestions for 2014. Our request for the sources of these inputs has been ignored.

The revised pricing released on November 7, 2013, does not specify the inputs for wind. WED requests the revised CREST model used to generate the revised pricing so we can compare your inputs to the actual data provided. This is meant to be a transparent and equitable price-setting process. The stakeholders are entitled to a complete understanding of the extent to which specific inputs based on actual data from local development projects is being rejected and any rationale for such a rejection. With this letter we provide additional back-up for the actual data that appears (as far as we can tell) to contradict inputs still carried in the CREST model. WED hopes to work with the State in order to rectify these discrepancies within the CREST Model so that these projects meet the proposed 12% IRR in order to secure equity financing and move forward with wind as a renewable energy resource for Rhode Island. A representative from WED is available to meet with and discuss these specific inputs in person at the State's convenience. Please allow this meeting to occur sufficiently in advance of the next public presentation of the revised ceiling prices so that OER and their consultants have adequate time to fully consider the actual data.

Sincerely,

Mark DePasquale, Founder
Wind Energy Development, LLC

CAPACITY FACTOR

State's Input
26.0 %

'WED' Actual
22.5%

The below chart displays the actual capacity factors for 3 of WED's turbine locations using the Goldwind GW 82 turbine with a hub height of 85 meters. Both WED Coventry One, LLC and WED Coventry Two, LLC have 12 months of wind studies as supporting data for this figure, completed by AL-PRO. WED NK Green, LLC has 12 months of wind studies as well as 10 months of being in service as supporting data for its capacity factor.

Actual Examples (data provided by AL-PRO)

PROJECT / LOCATION	CAPACITY FACTOR
WED NK Green, LLC / North Kingstown	22.0%
WED Coventry One, LLC / Coventry	23.7%
WED Coventry Two, LLC / Coventry	22.5%
Portsmouth Abbey / Portsmouth	*21.8%

**For the Portsmouth Abbey: Using the Goldwind 1.5 MW Direct Drive turbine power curve (and the completed wind study), the capacity factor increases from 21.0% (supplied by Portsmouth) to 22.6% for the Portsmouth Abbey location. WED uses an average of these two figures for calculating the figure shown above for this location.*

WED calculated the "WED Actual" capacity factor as an average of the four locations/factors shown above.

****Appendix A: Capacity factor supporting data provided by AL-PRO, full Wind Study upon request**

In addition to the data presented above, the Bay Commission has a 'Wind Feasibility Study Report' which was completed in 2009, showing the capacity factors for turbine's in Rhode Island by some of the major manufacturers.

- The average capacity factor for the turbine models/manufacturers between 900 kW and 1.65 MW (5 major turbine manufacturers) is 18.0%.
- The average capacity factor for both of 1.5 MW turbines in the Bay Commissions report is 18.85%

The actual Bay Commission data can be seen in the chart below:

Manufacturer	Model	Capacity (kW)	Capacity Factor (2008 Data)	Estimated Availability (%)	Electrical Production (kWh/yr)	% of FP WWTF Power Demand
Tangarie	GUS10	10	2.0%	98.1%	3,503	0.0%
Bergey	Excel	10	15.0%	98.1%	13,004	0.1%
Northwind	NW100	100	14.4%	98.1%	136,216	1%
Elecon	T600-48	600	16.5%	98.1%	728,943	7%
Enertech	E-48	600	19.2%	98.1%	801,206	8%
Vestas RRB	PS47-600	600	16.6%	98.1%	691,028	7%
Furhlander	FL600	600	23.5%	98.1%	930,435	9%
Norwin	NW47-750	750	15.6%	98.1%	828,101	8%
EWT	AWE 54-900	900	18.8%	98.1%	1,111,716	11%
Gamesa	AE61-1320	1320	14.6%	98.1%	1,355,411	13%
GE Energy	GE1/5sle	1500	18.6%	98.1%	21,963,123	19%
Furhlander	FL1500	1500	19.1%	98.1%	2,023,554	20%
AAER	A-1650-77	1650	18.7%	98.1%	2,188,832	21%

INTERCONNECTION COSTS

State's Input
\$150/kW

'WED' Average
\$222/kW

Actual Examples:

PROJECT NAME	INTERCONNECTION COST
WED Coventry One, LLC	\$270,502
WED Coventry Two, LLC	Pending
WED Coventry Three, LLC	\$395,347
WED Coventry Four, LLC	\$395,347
WED DV Wind, LLC	\$434,030
WED NK Green, LLC	\$169,797

The State's interconnection cost input included in the CREST Model is \$150/kW. WED is installing 1.5 MW turbines, so according to the State's CREST Model, each turbine should have a total interconnection cost of \$225,000 (1,500 kW * \$150).

The actual interconnection cost estimates, supplied by National Grid, are displayed in the chart above. The average interconnection cost (of the 4 projects underway, excluding WED Coventry Two, LLC (where the figure is pending) is \$333,005 or \$222/kW.

The figures provided by National Grid are estimates, with the exception of WED NK Green, LLC which is an actual figure). The actual cost may be either more or less than the figure they state in their Feasibility Study. A guaranteed, from National Grid, that these costs would not exceed \$150/kW would eliminate concerns of such high interconnection costs. If this cannot be guaranteed, then WED believes that the State's input should be increased in the CREST Model to reflect an average of the estimates provided by National Grid.

***Appendix B: Supporting documents (provided by National Grid)*

INSURANCE EXPENSE

<u>State's Input</u>	<u>'WED' Actual</u>
\$16,000/year	\$35,287/year

- WED believes the State's input of \$16,000 per year (0.3% of the project cost of \$5.4 million) is low for a single turbine project. Wind Energy Development, LLC has a single turbine erected and fully insured. The cost for that insurance amounts to \$35,287. See actual breakdown of insurance premiums below.

Actual Example:

PROJECT NAME	COST	DESCRIPTION
WED NK Green, LLC	\$16,787	Travelers property policy
	\$10,000	ACE America
	\$8,500	American Safety Indemnity – Umbrella Policy

***Appendix C: Insurance bill for WED NK Green, LLC*

PROJECT MANAGEMENT

<u>State's Input</u>	<u>'WED' Actual</u>
\$15,000/year	\$32,500/year

WED has calculated this figure to be \$32,500 per year. This figure is based on the time spent managing the existing WED NK Green turbine over the past 10 months since it has been in service. WED NK Green requires an average of 5 hours per week for project management. The cost per hour of labor is calculated at \$125 per hour.

***Appendix D: Project Management bill for NK Green, LLC*

PROPERTY TAX

<u>State Input</u>	<u>'WED' Actual</u>
95% of	95% of
\$15.0/1000	\$18.8/1000

The actual Property Tax billed for the WED NK Green, LLC is \$35,720 based on a \$1,900,000 cost for the turbine. This equates to 95% of \$18.8/1000. The State's input for property tax amounts to \$28,500, which amounts to a difference of \$7,220.

***Appendix E: Property Tax Bill for WED NK Green*

INTEREST RATE ON DEBT

<u>State's Input</u>	<u>'WED' Actual</u>
5.5%	6.5%

WED secured financing for the WED NK Green, LLC project at a 6% adjustable rate from Independence Bank. Rates have since increased. WED believes that it will be able to secure future financing at a rate of 6.5% adjustable, based on discussions with various banks.

***Appendix F: Mortgage Rate for NK Green, LLC*

LAND LEASE

<u>State Input</u>	<u>'WED' Actual</u>
\$20,000/year	\$60,000/year

WED has negotiated land leases for 3 turbine locations. The below represents the actual costs required in order to secure those leases.

PROJECT / LOCATION	ACTUAL COST
WED Stamp Farm / Exeter	\$60,000/year
WED Coventry Three, LLC / Coventry	\$54,000/year
WED Coventry Four, LLC / Coventry	\$54,000/year

***Appendix G: Land Lease costs for 3 turbine sites above*

The amount of land required for the installation of a turbine can be significant, leading to the land lease costs being ranging between \$4,500 to \$5,000 per month. This figure is based on the fact that each turbine requires 22 acres of land for the fall zone, due to a 1.5 MW turbine having a 675 foot radius. This means that the total area requires per turbine is 41.7 acres.

The States current CREST Model inputs for 1.5 MW solar projects is \$30,000/year. A 1.5 MW Solar installation requires 15 acres of land to be leased. This is a cost of 2k an acre. According to these figures, a 1.5 MW turbine should have a land lease input in the CREST Model of \$86,000/year if done with the same calculations used for solar. WED has been able to secure land leases at between \$54,000 to \$60,000 per year.

TOTAL INSTALLED COST (\$/kW)

<u>State's Input</u>	<u>'WED' Actual</u>
\$3,350/kW	\$3,757/kW

- WED has a cost of \$5,635,000 (*per WED Coventry One, LLC & WED Coventry Two, LLC pro-forma completed by McGladrey*), per 1.5 MW turbine installed. This calculates to a cost of \$3,757 per kW.
- WED's cost segregation for WED NK Green, LLC, was certified by McGladrey and submitted to the treasury for approval of the 1603 grant for which it qualified as reasonable costs. These documents are available for review upon request.
- WED's hard cost's are in line with the Bay Commission, which has them at \$4.6 million. WED does however, have to pay a number of soft costs up front, which the Bay Commission is not subject to. These costs include a financing fee, insurance and bonding, to name a few.



Report No. WG-30102013-790-3-RP

Determination of Energy Yields
for the Proposed
Coventry
Wind Farm

(Rhode Island, USA)

Provided by

AL-PRO GmbH & Co. KG
Dipl. Inf. Carsten Albrecht
Dorfstraße 100
D – 26532 Großheide

Client:

Wind Energy Development LLC
1130 Ten Rod Road, Suite E-102
North Kingstown, Rhode island
02852, USA

Großheide, October 30, 2013

1 Overview of results

The objective of this report is to determine the average annual yield of the proposed Coventry Wind Farm. The proposed wind farm will consist of two 1,500 kW utility scale wind turbines which were modeled at 85 and 100 m hub heights (Goldwind GW 82). The turbine specific wind conditions are based on data from a 60 m meteorological tower that is located in the wind farm. The met tower data were quantified in a companion report WG-30102013-790-1-RP [26] using a linear computational approach using WAsP [31] software.

The determination of the wind farm yield is based on flow simulations that have been completed and described in detail in WG-30102013-790-1-RP [26].

WindPro [27] developed by EMD in Denmark and WAsP [31] (Windatlas Analysis and Application program) developed by the RISØ Laboratory in Denmark were the main software tools used in the analysis presented in this report.

1.1 Summary of key results

Table 1-1 shows a summary of the key results for the proposed Coventry wind farm.

Table 1-1: Key Results for the Coventry Wind Farm

Option	Turbine	Hub height	Estimated average wind velocity	Energy production - free incident flow – no technical losses	Capacity factor - free incident flow
1	T1 – Goldwind GW 82	85 m	5.50 m/s	3,172 MWh/yr	24.1 %
	T2 - Goldwind GW 82	85 m	5.35 m/s	2,970 MWh/yr	22.5 %
2	T1 – Goldwind GW 82	100 m	5.74m/s	3,404 MWh/yr	26.6 %
	T2 - Goldwind GW 82	100 m	5.61 m/s	3,311 MWh/yr	25.2 %

1.2 Summary of key transgression probabilities

Table 1-2 highlights key long term yields for different transgression probabilities for the proposed Coventry wind farm on an individual turbine basis.

Table 1-2: Estimated Yield at Selected Probability Levels for the Long-term Period including Wake losses.

Long-term Yield						
Option	Turbine	Hub height (m)	Capacity factor – including wake losses (P50)	Annual energy yield with transgression probability of 50% (P50)	Annual energy yield with transgression probability of 75% (P75)	Annual energy yield with transgression probability of 90% (P90)
1	T1 – Goldwind GW 82	85	23.7%	3,121 MWh/yr	2,642 MWh/yr	2,211 MWh/yr
	T2 – Goldwind GW 82	85	22.5%	2,954 MWh/yr	2,501 MWh/yr	2,094 MWh/yr
2	T1 – Goldwind GW 82	100	26.1%	3,437 MWh/yr	2,869 MWh/yr	2,357 MWh/yr
	T2 – Goldwind GW 82	100	25.0%	3,293 MWh/yr	2,749 MWh/yr	2,260 MWh/yr

These results exclude the estimated technical losses (section 4.6). The wind farm is expected to have an overall efficiency of 98.9% for the layout that was analyzed. This indicates low wake losses and is a reflection of the proposed turbine locations in relation to the dominant wind directions.

APPENDIX: B

Interconnection Costs: Supporting Data

WED Coventry One, LLC: Feasibility Estimate

Wind Energy Development –Coventry Unit 1 RI-14319785

Page 3 of 6

Feasibility Study Grade Estimate ^{1, 2}						
National Grid Work Item	Conceptual Cost not including Tax Liability				Associated Tax Liability Applied to capital	Total Customer Costs includes Tax Liability on Capital Portion
System Modifications	Pre-Tax Total \$	Capital	O&M	Removal	22.58%	Total \$
Point of Interconnection – (1) Load break, (1) Recloser, (1) Primary Metering Assembly.	\$101,700	\$101,700			\$22,964	\$124,664
Re-configure feeder; install two pole top reclosers	\$110,000	\$110,000			\$24,838	\$134,838
Replace three sets capacitor bank controls	\$6,000		\$6,000			\$6,000
Coordination Study	\$2,500		\$2,500			\$2,500
Witness Testing	\$2,500		\$2,500			\$2,500
Totals	\$222,700	\$211,700	\$11,000		\$47,802	\$270,502
¹ Feasibility Study Grade estimates are provided in good faith and based on previous experience. They were developed with a generalized understanding of the project and based upon information both provided by the Interconnecting Customer in the interconnection application and collected by Company. They are prepared using historical cost data, data from similar projects, and other assumptions. Such estimates cannot be relied upon by the Interconnecting Customer for the purposes of holding the Company liable or responsible for its accuracy as long as the Company has provided the estimate in good ² The associated tax effect liability is the result of an IRS rule, which states that all costs for construction collected by National Grid, as well as the value of donated property, are considered taxable income. Current tax effect rate is 22.58% for Narragansett Electric Company, d/b/a National Grid, assets.						

APPENDIX: B (CONTINUED)

Interconnection Costs: Supporting Data

WED Coventry Three, LLC: Feasibility Estimate

Wind Energy Development, LLC –Coventry 3-RI-15640455

Page 2 of 5

Feasibility Study Grade Estimate ^{1,2}						
National Grid Work Item	Conceptual Cost not including Tax Liability				Associated Tax Liability Applied to capital	Total Customer Costs includes Tax Liability on Capital Portion
System Modifications	Pre-Tax Total \$	Capital	O&M	Removal	22.84%	Total \$
Point of Interconnection – pad mounted equipment (1) Load break, (1) Recloser, (1) Primary Metering Assembly.	\$120,000	\$108,000	\$12,000	\$0	\$24,667	\$144,667
Direct Transfer Trip (if required to prevent islanding)	\$200,000	\$200,000	\$0	\$0	\$45,680	\$245,680
Coordination Study	\$2,500	\$0	\$2,500		\$0	\$2,500
Witness Testing	\$2,500	\$0	\$2,500	\$0	\$0	\$2,500
Totals	\$325,000	\$308,000	\$17,000	\$0	\$70,347	\$395,347

APPENDIX: B (CONTINUED)

Interconnection Costs: Supporting Data

WED Coventry Four, LLC: Feasibility Estimate

Wind Energy Development, LLC –Coventry 4-RI-15772951

Page 2 of 5

Feasibility Study Grade Estimate ^{1,2}						
National Grid Work Item	Conceptual Cost not including Tax Liability				Associated Tax Liability Applied to capital	Total Customer Costs includes Tax Liability on Capital Portion
System Modifications	Pre-Tax Total \$	Capital	O&M	Removal	22.84%	Total \$
Point of Interconnection – pole mounted equipment (1) Load break, (1) Recloser, (1) Primary Metering Assembly.	\$120,000	\$108,000	\$12,000	\$0	\$24,667	\$144,667
Direct Transfer Trip (if required to prevent islanding)	\$200,000	\$200,000	\$0	\$0	\$45,680	\$245,680
Coordination Study	\$2,500	\$0	\$2,500		\$0	\$2,500
Witness Testing	\$2,500	\$0	\$2,500	\$0	\$0	\$2,500
Totals	\$325,000	\$308,000	\$17,000	\$0	\$70,347	\$395,347

APPENDIX: B (CONTINUED)

Interconnection Costs: Supporting Data

WED DV Wind, LLC: Feasibility Estimate

DV Wind, LLC –Dowling Village RI-14982828

Page 3 of 8

Feasibility Study Grade Estimate ^{1, 2}						
National Grid Work Item	Conceptual Cost not including Tax Liability				Associated Tax Liability Applied to capital	Total Customer Costs includes Tax Liability on Capital Portion
System Modifications	Pre-Tax Total \$	Capital	O&M	Removal	22.58%	Total \$
Point of Interconnection – pad mounted equipment (1) Load break, (1) Recloser, (1) Primary Metering Assembly.	\$150,000	\$150,000	\$0	\$0	\$33,870	\$183,870
Direct Transfer Trip (if required to prevent islanding)	\$200,000	\$200,000	\$0	\$0	\$45,160	\$245,160
Coordination Study	\$2,500	\$0	\$2,500		\$0	\$2,500
Witness Testing	\$2,500	\$0	\$2,500	\$0	\$0	\$2,500
Totals	\$355,000	\$350,000	\$5,000	\$0	\$79,030	\$434,030
¹ Feasibility Study Grade estimates are provided in good faith and based on previous experience. They were developed with a generalized understanding of the project and based upon information both provided by the Interconnecting Customer in the interconnection application and collected by Company. They are prepared using historical cost data, data from similar projects, and other assumptions. Such estimates cannot be relied upon by the Interconnecting Customer for the purposes of holding the Company liable or responsible for its accuracy as long as the Company has provided the estimate in good faith ² The associated tax effect liability is the result of an IRS rule, which states that all costs for construction collected by National Grid, as well as the value of donated property, are considered taxable income. Current tax effect rate is 22.58% for Narragansett Electric Company, d/b/a National Grid, assets.						

APPENDIX: B (CONTINUED)

Interconnection Costs: Supporting Data

WED NK Green, LLC: Interconnection Bill

From: Kennedy, John C. [mailto:JOHN.KENNEDY@us.ngrid.com]
Sent: Monday, June 25, 2012 10:27 AM
To: Patrick Fitzgerald
Subject: RE: Un-signed Interconnection Service Agreement & Customer Checklist - RI - 196 Wind Energy Development, LLC North Kingstown Green

Good morning Patrick,

Please make the check payable to National Grid and send it to my attention at 280 Melrose St., Providence, RI 02907. I will see that it is processed internally. The process to invoice and have customers submit payment to a lock box service company has not fully been implemented.

System Impact Study Cost Estimate fee: \$169,767.00.

Thank you,

J. C. Kennedy

nationalgrid
Lead Technical Support Consultant - RI
Technical Sales and Engineering Support
Office: 401-784-7221
Mobile: 401-255-5191

RECEIVED JUL 09 2012
APPROVED _____
ENTERED *PR*
PROJECT *120*
COST CODE *16-02-11*
REQ# _____
PAID *5/10* *6/24/12* CHECK # *FB 7431*

Please select the appropriate link below for the latest information on:

Interconnection Standards - [MA](#), [RI](#), [NH](#)

Net Metering - [MA](#), [RI](#), [NH](#)

[Wholesale Energy Procurements](#)

APPENDIX: B (CONTINUED)

Interconnection Costs: Supporting Data

WED NK Green, LLC: Interconnection Payment



Current Date: June 29, 2012
Account Number:
Capture Date: June 26, 2012
Item Number:
Posted Date: June 26, 2012
Posted Item Number:
Amount: 169,767.00
Record Type: Credit

INDEPENDENCE BANK
1370 S COUNTY TRAIL
EAST GREENWICH, RI 02818

REGISTER COPY

INDEPENDENCE BANK
CASHIER'S CHECK
1370 South County Trail
East Greenwich, RI 02818

007431

REMITTER
WED NK Green, LLC

PAYABLE TO
National Grid

6/26/2012

169,767.00

One Hundred Sixty-Nine Thousand Seven Hundred Sixty-Seven dollars

NOT NEGOTIABLE

FEE COLLECTED
DATE PAID
DAILY TOTAL

Sharon E. Kayagors
Andrea J. Kelly

***169,767.00
CASHIER CHECK
Fee Amt: \$0.00
Transaction 0027 by Tellr03
Received 6/26/2012 at 12:47pm
to drawer 003 on 6/26/2012 business.

APPENDIX: C

Property Insurance: Supporting Data

WED NK Green, LLC: Insurance Summary

Company: Travelers Property Casualty Company of America

Policy: Commercial Inland Marine Coverage

Period: 11/19/12 to 11/19/13

V. PREMIUM SUMMARY

Minimum Earned Premium: \$NONE

Reporting or Non-Reporting applies as indicated by an 'X' below:

<input checked="" type="checkbox"/> Non-Reporting: \$16,787	Annual Policy Premium
<input type="checkbox"/> Reporting: \$	Deposit Premium

Company: American Safety Indemnity Company

Policy: General Liability Policy

Period: 11/19/12 to 11/19/13

DECLARATIONS - GENERAL LIABILITY POLICY Page 3 POLICY IDENTIFICATION
PMG G24921402 001

SCHEDULE OF COVERAGES

COVERAGE PART:							
Location Number	Coverage	Class Code/ Classification Description	Premium Basis	Exposure	Rate	Premium	
			Per 1,000 Annual Kilowatt Hours	12,088,800	\$0.827	\$10,000	
					\$	\$	

Company: American Safety Indemnity Company

Policy: Commercial Excess Liability

Period: 11/19/12 to 11/19/13

00011

PREMIUM RATES

Rate Basis	Exposure	Rate	Total Premium
annual kilowatt hours	\$12,088,000	Flat	\$8,500.00
Total			\$8,500.00

****Complete insurance policy available to be reviewed upon request**

APPENDIX: D

Project Management: Supporting Data

WED NK Green, LLC: Project Management bill from Site, LLC

SITE LLC

1130 Ten Rod Road
Suite E-102
North Kingstown, RI 02852

Invoice

Date	Invoice #
10/31/2013	13-340-001

Bill To
WED NK Green, LLC 1130 Ten Rod Road, E-102 North Kingstown, RI 02852

P.O. No.	Terms	Project
		13-340 WED NK Green Ma...

Quantity	Description	Rate	Amount
260	<p>November 1 2012 - October 31, 2013 (5 hours week / 52 weeks)</p> <p>Services include:</p> <p>Technical</p> <p>On Call 24 hours</p> <p>Service Shutdown and Monitoring</p> <p>Manufacturer conference calls</p> <p>Maintain operational coordination</p> <p>Financial</p> <p>Keep and maintain Bookkeeping records of daily activities including checking account records, reconciliation and outside inquiries</p> <p>National Grid Reporting and review of generation reports: Work with Renewable Generation executive to obtain and review reports for energy generation for each period</p> <p>Receivables and billing National Grid</p> <p>Payables: Review, enter, inquire, maintain and execute all payments (distributions) of payables</p> <p>SCADA Reporting for preparation of electrical generation and evaluate against Renewable Generation report</p> <p>Insurance review, coordinate, plan and payments</p> <p>Prepare Quarterly Reviews: Prepare trial balance ready reports for Accountants (CPA Review) and assist in preparing Financial Statements</p>	125.00	32,500.00
Authorized by: Benjamin Kaplan Controller		Total	\$32,500.00

WED NK Green, LLC: Property Tax Bill

20

APPENDIX: F

Interest Rate on Debt: Supporting Data

WED NK Green, LLC: Bank Statement for Mortgage



Any questions, please contact the Finance Department:
(401) 886-4600

WED NK GREEN, LLC
1130 TEN ROD ROAD
NORTH KINGSTOWN, RI. 02852

Monthly Payment Statement

Bill For: 07/01/2012
Payment Amount: \$5,421.36
Statement Date: 06/19/2012
Loan Number:
SBA Number:
Interest Rate: 6.000000
Payment Due Date: 07/01/2012

Unpaid Late Charges: \$0.00
Other Charges: \$0.00
OverPayments: \$0.00
Escrow: \$0.00
Total: \$5,421.36

Include an additional \$271.07 late fee if not paid before the 11th

Payment Activity
Date Description Principal Interest Escrow Late Charge Fees/Other Total

Customer Service : 401-886-4600

Principal Balance on 06/19/2012 2,500,000.00

- [Detach] -
Payment Notice

INDEPENDENCE BANK

Finance Department
1370 South County Trail
East Greenwich, RI 02818

WED NK GREEN, LLC

Bill For: 07/01/2012
Payment Amount: \$5,421.36
Statement Date: 06/19/2012
Loan Number:
SBA Number:
Interest Rate: 6.000000
Payment Due Date: 07/01/2012

Unpaid Late Charges: \$0.00
Other Charges: \$0.00
OverPayments: \$0.00
Escrow: \$0.00
Total: \$5,421.36

Include an additional \$271.07 late fee if not paid before the 11th

DO NOT PAY - Your payment will automatically be deducted from your account.

APPENDIX: G

Land Lease: Supporting Data

WED Coventry Three, LLC & WED Coventry Four, LLC & WED Stamp Farm, LLC

WED Coventry Three, LLC & WED Coventry Four, LLC

6. RENT

6.1 Rent Amount

(a) For the period following the Effective Date and commencing on the date that the Wind Turbine commences Commercial Operation (the “**Rent Commencement Date**”) and ending on the sixth (6th) anniversary of the Rent Commencement Date (the “**Initial Rent Term**”), Lessee shall pay to Lessor rent (“**Rent**”) in the amount of Four Thousand Five Hundred Dollars (\$4,500.00) per month for the Term of the Lease. Commencing on the date following the end of the Initial Rent Term, and on each five (5) year anniversary thereafter during the Term, annual Rent shall increase by an amount equal to five percent (5%) of the Rent payable during the immediately preceding year.

WED Stamp Farm, LLC

Rent.

a. Commencing Ninety (90) days after the execution of the Lease, Lessee shall pay to Lessor or Lessor’s designated agent, at its office, or at a place in a manner otherwise designated by Lessor, for each month during the Primary Term and the Extended Term, if any, Lessee shall pay to Lessor, as rent (the “**Rent**”) an amount equal to Five Thousand Dollars (\$5,000) for the first Wind Turbine then installed, an amount equal to Thirty-Five Hundred Dollars (\$3,500) for the second Wind Turbine then installed and an amount equal to Twenty-Five Hundred Dollars (\$2,500) for each additional Wind Turbine then installed on the Property. The annual Rent shall increase cumulatively by five percent (5%) over the Rent paid for the immediate prior 60 month period commencing on the first anniversary of the Effective Date and on each subsequent 60 month anniversary during the Primary Term and the Extended Term if exercised. The Effective Date shall be the date of this lease.

b. In addition to the Rent, Lessee shall pay the Lessor additional rent of Two Hundred Dollars (\$200) per month which is to be considered as a utility cost reimbursement (the “**Additional Rent**”).

***Complete Lease available to be reviewed upon request*

CREST MODEL SUMMARY RESULTS

Outputs Summary	units	Current Model Run
Net Year-One Cost of Energy (COE)	¢/kWh	22.35
Annual Escalation of Year-One COE	%	0.0%
Percentage of Tariff Escalated	%	0.0%
Does modeled project meet <i>minimum</i> DSCR requirements?		Yes
Does modeled project meet <i>average</i> DSCR requirements?		Yes
<i>Did you confirm that all minimum required inputs have green check cells?</i>		

Net Nominal Levelized Cost of Energy	¢/kWh	22.35
--------------------------------------	-------	-------

Inputs Summary		
Generator Nameplate Capacity	kW	1,500
Net Capacity Factor, Yr 1	%	22.5%
Production, Yr 1	kWh	2,956,500
Project Useful Life	Years	20
Payment Duration for Cost-Based Tariff	Years	15
% of Year 1 Tariff Rate Escalated	%	0%
Net Installed Cost (Total Installed Cost less Grants)	\$	\$5,635,026
Net Installed Cost (Total Installed Cost less Grants)	\$/kW	\$3,757
Operating Expenses, Aggregated, Yr 1	¢/kWh	(7.93)
% Equity (% hard costs) (soft costs also equity funded)	%	53%
Target After-Tax Equity IRR	%	12.00%
% Debt (% of hard costs) (mortgage-style amort.)	%	47%
Debt Term	Years	20
Interest Rate on Term Debt	%	6.50%
Is owner a taxable entity?		Yes
Federal Tax Benefits Used "as generated" or "carried forward"?		As Generated
State Tax Benefits Used "as generated" or "carried forward"?		As Generated
Type of Federal Incentive Assumed		Cost-Based
Tax Credit- or Cash- Based?		ITC
Other Grants or Rebates		No
Total of Grants or Rebates	\$	NA
Bonus Depreciation assumed?		No

CREST MODEL INPUTS PAGE

Project Size and Performance	Units	Input Value
Generator Nameplate Capacity	<i>kW</i>	1,500
Net Capacity Factor, Yr 1	<i>%</i>	22.5%
Production, Yr 1	<i>kWh</i>	2,956,500
Annual Production Degradation	<i>%</i>	0.0%
Project Useful Life	<i>years</i>	20

Capital Costs	Units	Input Value
Select Cost Level of Detail		Complex
Click Here for Complex Input Worksheet	<i>\$</i>	\$5,635,026
Total Installed Cost (before grants, if applicable)	<i>\$</i>	\$5,635,026
Total Installed Cost (before grants, if applicable)	<i>\$/kW</i>	\$3,757

Operations & Maintenance	Units	Input Value
Select Cost Level of Detail		Intermediate
Fixed O&M Expense, Yr 1	<i>\$/kW-yr</i>	\$26.67
Variable O&M Expense, Yr 1	<i>¢/kWh</i>	0.00
O&M Cost Inflation, initial period	<i>%</i>	2.0%
Initial Period ends last day of:	<i>year</i>	1
O&M Cost Inflation, thereafter	<i>%</i>	2.0%
Insurance, Yr 1 (% of Total Cost)	<i>%</i>	0.6%
Insurance, Yr 1 (\$) (Provided for reference)	<i>\$</i>	\$36,337
Project Management Yr 1	<i>\$/yr</i>	\$62,500
Property Tax or PILOT, Yr 1	<i>\$/yr</i>	\$35,720
Annual Property Tax Adjustment Factor	<i>%</i>	0.0%
Land Lease	<i>\$/yr</i>	\$60,000
Royalties (% of revenue)	<i>%</i>	0.0%
Royalties, Yr 1 (\$) (Provided for reference)	<i>\$</i>	\$0

Construction Financing	Units	Input Value
Construction Period	<i>months</i>	11
Interest Rate (Annual)	<i>%</i>	0.0%
Interest During Construction	<i>\$</i>	\$0

(Continued)

Permanent Financing	Units	Input Value
% Debt (% of hard costs) (mortgage-style amort.)	%	47%
Debt Term	years	20
Interest Rate on Term Debt	%	6.50%
Lender's Fee (% of total borrowing)	%	0.0%
Required Minimum Annual DSCR		1.10
Actual Minimum DSCR, occurs in →	Year 16	1.28
Minimum DSCR Check Cell (If "Fail," read note ==>)	Pass/Fail	Pass
Required Average DSCR		1.20
Actual Average DSCR		1.53
Average DSCR Check Cell (If "Fail," read note ==>)	Pass/Fail	Pass
% Equity (% hard costs) (soft costs also equity funded)	%	53%
Target After-Tax Equity IRR	%	12.00%
Weighted Average Cost of Capital (WACC)	%	8.17%
Other Closing Costs	\$	\$0

<u>Summary of Sources of Funding for Total Installed Cost</u>		
Senior Debt (funds portion of hard costs)	47%	\$2,648,462
Equity (funds balance of hard costs + all soft costs)	53%	\$2,986,564
Total Value of Grants (excl. pmt in lieu of ITC, if applicable)	0%	\$0
Total Installed Cost	\$	\$5,635,026

Tax	Units	Input Value
Is owner a taxable entity?		Yes
Federal Income Tax Rate	%	35.0%
Federal Tax Benefits used as generated or carried forward?		As Generated
State Income Tax Rate	%	9.0%
State Tax Benefits used as generated or carried forward?		As Generated
Effective Income Tax Rate	%	40.85%
Depreciation Allocation		see table ==>

Cost-Based Tariff Rate Structure	Units	Input Value
Payment Duration for Cost-Based Tariff	years	15
% of Year-One Tariff Rate Escalated	%	0.0%
Cost-Based Tariff Escalation Rate	%	0.0%

Forecasted Market Value of Production; applies after Incentive Expiration		
Select Market Value Forecast Methodology		Year-by-Year

(Continued)

Federal Incentives		Units	Input Value
Select Form of Federal Incentives			Cost-Based
Investment Tax Credit (ITC) or Cash Grant?			ITC
ITC or Cash Grant Amount	%		30%
ITC or Cash Grant	\$		\$1,575,679
Additional Federal Grants (Other than Section 1603)	\$		\$0
Federal Grants Treated as Taxable Income?			Yes

State Rebates, Tax Credits and/or REC Revenue		Units	Input Value
Select Form of State Incentive			Neither
Additional State Rebates/Grants	\$/kW		\$0
Total \$ Cap on State Rebates/Grants	\$		\$500,000
State Grants Treated as Taxable Income?			Yes

Capital Expenditures During Operations: E.g. Gearbox or Blade Replacements		
1st Equipment Replacement	year	7
1st Replacement Cost (\$ in year replaced)	\$/kW	\$0
2nd Equipment Replacement	year	14
2nd Replacement Cost (\$ in year replaced)	\$/kW	\$0
3rd Equipment Replacement	year	15
3rd Replacement Cost (\$ in year replaced)	\$/kW	\$0
4th Equipment Replacement	year	20
4th Replacement Cost (\$ in year replaced)	\$/kW	\$0

Reserves Funded from Operations		Units	Input Value
Decommissioning Reserve			
Fund from Operations or Salvage Value?			Operations
Reserve Requirement	\$		\$466,000

Initial Funding of Reserve Accounts		Units	Input Value
Debt Service Reserve			
# of months of Debt Service	months		0
Initial Debt Service Reserve	\$		\$0
O&M Reserve/Working Capital			
# of months of O&M Expense	months		0.00000001
Initial O&M and WC Reserve	\$		\$0
Interest on All Reserves	%		1.5%

Depreciation Allocation		Input Values
Bonus Depreciation		No



October 18, 2013

Mr. Mark DePasquale
President
Wind Energy Development, LLC
1130 Ten Rod Road
Suite E-102
North Kingstown, RI 02852

Dear Mark,

We have reviewed the information and wind project assumptions that you have provided for input into the National Renewable Energy Laboratory's Cost of Renewable Energy Spreadsheet Tool ("CREST") for submission to the State of Rhode Island and find the information to be reasonable based on our knowledge of your facts.

Sincerely,

A handwritten signature in black ink that reads "Thomas A. Windram".

Thomas A. Windram
Partner

OBJECTIVE ANALYSIS of INPUTS

WED has asked for the data backing SEA's current assumptions but has not received it yet. Therefore, we will attempt to explain the difference between presumed State assumptions and the reality wind developments face in RI.

CAPACITY FACTOR

We are not certain of the grounds for SEA's assumption but believe SEA may have presumed that advancements in technology would bring the capacity factor up for turbine installations in Rhode Island and that developers would build projects in ideal locations for wind resource as borne out by the RI Renewable Energy Siting Partnership.

In fact, the topography and tree coverage of Rhode Island lends itself to significant turbulence, which is problematic for regular velocity turbine blades of 82+ meters in length. These low velocity wind blades are constructed to be lighter than those for the high velocity wind areas. These lighter weight blades are not built to withstand high turbulence and are thus not an option for the land-based turbines WED is installing in Rhode Island. For this reason, low velocity 82 meter blades are currently the safest and most efficient option.

Low velocity wind blades are constructed for land-based locations with low wind speeds. These low velocity blades are lighter in weight and not durable enough to be used in areas of heavy wind, as are ocean based turbines. The new technology that increased the capacity factor, used as an input, may have been for this type of turbine, which unfortunately is not the best option for land-based sites in Rhode Island.

This being said, the technology for low velocity turbines has gotten significantly better over the years and WED is using the best technology available for the sited locations in Rhode Island. As of seven years ago, turbine installations in Rhode Island would have been impractical, since 6 meters of wind was the minimum required speed. Today, the turbines have newer technology and have low velocity turbines with a cutting speed of 1.5 meters and actually power production begins at 3 meters of wind. This is the technology that WED has used in calculating the capacity figure submitted to the State.

The restrictions on wind siting requires inland development on sites with less than maximum wind speeds. While the RESP concluded that RI's wind resource would not be adequate to support development on in-shore locations, WED has found much better wind resource there than the RESP anticipated. Yet, the resource is not as strong as would have been realized at ideal locations and, as our data shows, even Portsmouth's turbine (which has a strong location) is not seeing anything close to the capacity factor SEA is carrying.

In order to reach higher capacity factors in the state of Rhode Island, we would have to use 100-115 meter towers. The cost of these taller towers would add an additional \$600,000 (approx) per turbine installed. This would drive up construction cost. The cost increases are comprised of the actual tower, additional transport cost, and additional cost due to the requirement of a larger crane and erecting process. This was also taken into consideration when WED was researching the ideal turbine to install at the given sites.

INTERCONNECTION

Our understanding, from the last PowerPoint presentation SEA distributed, is that SEA based its presumed cost on National Grid's input regarding average interconnection costs in Massachusetts.

WED is not certain why National Grid's interconnection charges, both incurred and quoted to wind development projects, are so much higher than the costs in Massachusetts. We suppose it could be because of the inferior quality of RI's distribution grid, which raises a question of whether individual developments should pay for all upgrades or whether some portion of the charges should be generally allocated to ratepayers as necessary distribution system upgrades. It is also possible that MA does a better job of regulating interconnection costs to ensure that the utilities charge no more than their reasonable costs for interconnection. The interconnection tax National Grid assesses in RI may have been challenged in Massachusetts (based on the federal exemption) and may no longer be assessed there. The high costs may also be explained by the fact that neighbor resistance and restrictions on wind siting requires inland development on sites with less than ideal interconnection conditions.

WED is especially puzzled by high interconnection costs for its four projects in Coventry. All four 1.5 MW turbines connect to the same circuit. The first interconnection application presumed the need for circuit upgrades and the second required measures to remediate an islanding effect. Having paid to alleviate those concerns, WED expected that the cost of interconnecting the third and fourth turbines would come down dramatically, but instead they went up.

Part of the reason for the higher interconnection cost may be that in the past a single transformer could be used. Currently, for safety reasons, it is required to have a primary transfer, grounding transfer, switch gear and a reactor, all of which drive up the price.

PROJECT MANAGEMENT

Managing a site with a single turbine does not cost the same as managing a site with several turbines. As additional turbines are added to the location, the project management cost declines on a per turbine basis.

Due to the distribution of turbine sites being spread throughout the state, and the lack of multiple turbine locations, more time is required for project management.

Project management for the three turbines at the Bay Commission would have been approximately \$100,000 per turbine, rather than the single \$100,000 cost of the multiple turbine project.

INSURANCE

We do not know the basis for SEA's presumption on this. WED has thoroughly searched the market. It is possible that insurers see more risk for developments in RI given what has happened to the Portsmouth turbine.

The insurance per site has a minimum cost, so each additional turbine per location adds an incremental cost on top of the minimum. For this reason, the insurance is higher per turbine in a single turbine installation than per turbine in a multiple turbine installation.

PROPERTY TAX

We are uncertain of the basis for SEA's property tax assumption. WED entered its North Kingstown project assuming that it would be exempt from property tax pursuant to RIGL §44-3-21 which authorizes towns to exempt renewable energy systems from property tax. When WED was surprised to receive a tax bill for \$35,720 (18.8% per 1,000 on a \$1.9M project value) they appealed and North Kingstown denied the appeal on the basis that they had not elected to exempt renewable energy systems pursuant to the RI statute. We have appealed to the Board of Tax Appeals on the ground that this is exempt "manufacturing equipment" per RI Gen. Laws §§44-5-3(22), 44-3-3(20)(i), but have not received a ruling yet. It is not fair to presume anything less than full taxation at this time.

INTEREST RATE

WED secured financing for the WED NK Green, LLC project at a 6% adjustable rate from Independence Bank.

The government is currently keeping mortgage rates at a historically low level in order to stimulate the economy. This will not go on indefinitely and prior to 2003 interest rates were significantly higher. Higher mortgage rates have been the historical norm, with rates hovering in the 7% range in the early 1970s and rising to as high as 9% in late 1975, 1976 and most of 1978. During the 1990s, mortgage rates fluctuated between 7% to 9%. It is unrealistic to believe that WED will be able to secure a 5.5% interest rate for future projects. The NK Green, LLC turbine has a mortgage rate of 6% variable, and rates have since climbed.

LAND LEASE

WED does not know the source of SEA's assumption.

WED has worked with the Towns of Coventry and North Smithfield on 5 of its planned turbine projects. The Towns negotiate property leases in an arms length transaction. One of those projects also involved a power purchase agreement under which the Town will net meter the energy generated from the turbine. Even in that context of a collaborative, public/private partnership with the Town, as part of its transactional benefit the Town has required the lease revenue WED provides as input.

Due to the fall zones and setbacks per turbine, the amount of land required to be leased is approximately 22 acres. (projects have had a fall zone of 22 acres in each direction, bringing this to close to 44 acres). At a cost of \$2,000 an acre (the same as solar is granted), it would \$88,000 for a turbine installation. For turbines, the land beneath the turbine (within the fall zone) can be used for cattle grazing or other farm related activities. For this reason, the land is leased at a discount, since the farmer can still earn revenue on the land while the tower is there.

TOTAL INSTALLED COST

WED is not certain of the basis for SEA's presumption but we expect that it does not adequately account for specific cost drivers in RI.

WED speculates that the total installed may be higher due to some of the following:

- For the state of Rhode Island, it is required that an engineer inspect any and all bridges, over which turbine pieces will be transported, before a turbine can be delivered into the state. This inspection is not required by other states. The amount of this cost is based on the distance (From Quonset Point to NK Green, a distance of less than 5 miles, the engineering report had a cost of \$15,500). This cost will increase as the delivery site's distance from the port increases).
- The installation of a single turbine has costs that decrease exponentially as additional turbines are installed at the same location. An example of one of these costs is that of the crane and erection per turbine.
 - Crane cost (Excluding erection cost) for the installation of a single turbine is \$267,000. The cost for the crane is fixed for up to 4 turbines. So the price per turbine decreases exponentially for each additional turbine (*see chart below*)

# of Turbines	Crane Rental Cost per Turbine
1	\$267,000
2	\$133,500
3	\$89,000
4	\$66,750

* Taller towers require a more expensive crane in order to reach the 85 meter height, this also drives the cost up. The tower heights the Bay Commission installed are less than the 85 meters installed by WED. The Bay Commission was able to use a hydraulic crane for this installation, which is cheaper than the crane required to be built for the installation of an 85 meter tower. Their lower tower height is also a reason why the capacity factor for these turbines is in the 18% range vs. the higher capacity factor that WED has been able to achieve.

- Designing access routes, to the site, has the same cost regardless of the number of turbines installed at the location.
- Mobilization of heavy equipment for site work and utility trenching costs are high due to it being the same cost for a single turbine as if this cost were spread out among many.
- The fact that WED was forced to litigate with NGrid over the question of whether the two initial turbines proposed for installation in Coventry were to be considered one project for DG class/allocation purposes even if one was proposed to be a net metering turbine. SEA presumably did not anticipate those kinds of project development costs.