

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
PUBLIC UTILITIES COMMISSION

IN RE: REVIEW OF PROPOSED :  
TOWN OF NEW SHOREHAM :  
PROJECT PURSUANT TO : DOCKET NO. 4111  
R.I. GEN. LAWS § 39-26.1-7 :

**REPORT AND ORDER**

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**I. Background**

On June 26, 2009, Governor Carcieri signed a bill creating a Long-Term Contracting Standard for Renewable Energy (“Act”), codified at R.I. Gen. Laws § 39-26.1-1 to 8. Section seven of the Act, entitled the Town of New Shoreham Project, required Narragansett Electric Company d/b/a National Grid (“Grid”) to “solicit proposals for one newly developed renewable energy resources project of ten (10) megawatts or less that includes a proposal to enhance the electric reliability and environmental quality of the Town of New Shoreham.”<sup>1</sup> The solicitation was to “require

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<sup>1</sup> R.I. Gen. Laws § 39-26.1-7(a). On November 9, 2009, Governor Carcieri signed an amendment to the law allowing a wind project to potentially exceed the statutory MW limit and R.I. Gen. Laws § 39-26.1-7 states in full: On or before August 15, 2009, the electric distribution company shall solicit proposals for one

that each proposal include provisions for a transmission cable between the Town of New Shoreham and the mainland of the state [of Rhode Island].”<sup>2</sup>

Once Grid selected a project, Grid and the selected party were required to enter into negotiations with the goal of “achieving a commercially reasonable contract.”<sup>3</sup> If a

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newly developed renewable energy resources project of ten (10) megawatts or less that includes a proposal to enhance the electric reliability and environmental quality of the Town of New Shoreham. The electric distribution company shall select a project for negotiating a contract that shall be conditioned upon approval by the commission. Negotiations shall proceed in good faith to achieve a commercially reasonable contract. Should the distribution company and the selected party agree to a contract, the contract shall be filed with the commission no later than October 15, 2009 for commission approval. The commission shall review the contract and issue an order approving or disapproving the contract on or before January 31, 2010. If the parties are unable to reach agreement on a contract prior to October 15, 2009, an unsigned copy shall be filed by the electric distribution company prior to that same date, and the commission shall have the discretion to order the parties to arbitrate the dispute on an expedited basis. Notwithstanding anything in this section to the contrary, and notwithstanding any solicitation made pursuant to this section, the distribution company and the selected party may agree to a contract for a project that includes up to (but not exceeding) eight (8) wind turbines with aggregate nameplate capacity of no more than thirty (30) megawatts, subject to and conditioned upon the approval of the commission, even if the actual capacity factor of the project results in the project technically exceeding ten (10) megawatts. Upon approval of the contract, the provisions of § 39-26.1-4 and the provisions of paragraphs (a), (b), (c), (d), and (f) of § 39-26.1-5 shall apply, and all costs incurred in the negotiation, administration, enforcement, and implementation of the agreement shall be recovered annually by the electric distribution company in electric distribution rates. To the extent that there are benefits for customers of the Block Island Power Company or its successor, the commission shall determine an allocation of cost responsibility between customers of the electric distribution company and customers of Block Island Power Company or its successor after the cost estimates are filed with the commission, but the commission need not determine the final cost allocation at the time the commission considers and/or approves the contract between the electric distribution company and the project developer. The allocation of costs shall assure that individual customers in the Town of New Shoreham pay higher charges related to the project on their individual bills than any charges for the same project that may be included in individual bills of customers of the electric distribution company. The commission shall provide for an appropriate rate design and billing method between the electric distribution company and Block Island Power Company at the appropriate time.

<sup>2</sup> R.I. Gen. Laws § 39-26.1-7(b). R.I. Gen. Laws § 39-26.1-7(b) states in full: The solicitation shall require that each proposal include provisions for a transmission cable between the Town of New Shoreham and the mainland of the state. The electric distribution company, at its option, may propose to own, operate, or otherwise participate in such transmission cable project, subject to commission approval. The electric distribution company, however, has the option to decline to own, operate, or otherwise participate in the transmission cable project, even if the commission approves such arrangements. Should the electric distribution company own, operate, and maintain the cable, the annual costs incurred by the electric distribution company shall be recovered annually through a fully reconciling rate adjustment from customers of the electric distribution company and/or from the Block Island Power Company or its successor, subject to any federal approvals that may be required by law; provided, however, the parties shall use all reasonable efforts to obtain socialization of the costs of the cable in New England transmission rates administered by the ISO New England, to the extent permitted. The allocation of the cable costs shall be determined by the commission and assure that individual customers in the Town of New Shoreham pay higher charges related to the cable on their individual bills than any charges for the same project that may be included in individual bills of customers of the electric distribution company.

<sup>3</sup> Commercially reasonable is defined in R.I. Gen. Laws § 39-26.1-2 as follows: “Commercially reasonable” means terms and pricing that are reasonably consistent with what an experienced power market

contract was agreed to by October 15, 2009, it was required to be filed by the Rhode Island Public Utilities Commission (“Commission”) for its review and approval or disapproval.<sup>4</sup> If the parties were unable to agree to a contract, the Commission had the discretion to order arbitration.

On July 31, 2009, in compliance with R.I. Gen. Laws § 39-26.1-7(a), Grid issued a Request for Proposals 10 MW Renewable Energy Project Town of New Shoreham (Block Island), Rhode Island. Grid received one proposal from one developer, Deepwater Wind Block Island, LLC (“Deepwater”) on August 31, 2009. On December 10, 2009, two months after the deadline for filing a signed contract, Grid and Deepwater filed a signed Purchase Power Agreement (“PPA”) for Commission review. The PPA was conditioned upon the receipt of Commission approval within one year after Grid made a filing with the Commission seeking Regulatory Approval.<sup>5</sup> The PPA dated December 9, 2009 and filed with the Commission on December 10, 2009 is the subject of the Commission’s review in this Order.

## **II. October 15, 2009 Filing**

On October 15, 2009, Grid filed a letter to the Commission together with an unsigned copy of a PPA “for the potential purchase of renewable power from a wind

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analyst would expect to see in transactions involving newly developed renewable energy resources. Commercially reasonable shall include having a credible project operation date, as determined by the commission, but a project need not have completed the requisite permitting process to be considered commercially reasonable. If there is a dispute about whether any terms or pricing are commercially reasonable, the commission shall make the final determination after evidentiary hearings.

<sup>4</sup> As will be discussed below, Grid filed two unsigned versions of a Purchase Power Agreement (“PPA”) with a letter explaining why it did not sign the PPA before submitting a final signed PPA between itself and Deepwater Wind Block Island, LLC. In response to data requests from the Commission, the parties indicated that they did not believe most, if not all, of the outstanding issues were appropriate for Commission-ordered arbitration.

<sup>5</sup> Grid Exhibit 7 (PPA Section 8.3).

power developer who is proposing to construct a project off the coast of Block Island.”<sup>6</sup> Grid noted that the project would be comprised of six wind turbines with a nameplate capacity of approximately 21.6 MW with a capacity factor of 8.64 MW.<sup>7</sup> Grid stated that after approximately six weeks of negotiations, “the terms reflected in the unsigned PPA...are not commercially reasonable.”<sup>8</sup> Of particular concern to Grid was the estimated first year cost of 30.7 cents per kWh, escalating by 3.5% per year, excluding the cost of a transmission cable to the mainland. Grid explained that of greater concern than the magnitude of the pricing was the potential for even higher costs as a result of a shifting of production and post-construction cost risk from Deepwater to the ratepayer. For example, “unexpected operational problems, less than expected wind energy, or substantial increases in operation and maintenance expenses” would increase the price per kWh based on reconciliation clauses.<sup>9</sup> According to Grid, the pricing structure proposed by Deepwater would “effectively insulate the developer from the financial risks of production and maintenance.”<sup>10</sup>

Grid recognized the environmental benefits of renewable projects to the extent such projects displace fossil fuel generating units. Furthermore, Grid recognized that a transmission cable from Block Island to the mainland would allow Block Island Power Company (“BIPCo”) to reduce or effectively eliminate the use of diesel generation on the island. However, Grid stated, “these benefits would be achievable without the renewable

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<sup>6</sup> Grid Exhibit 1 (Grid Filing Letter 10/15/09), p. 1.

<sup>7</sup> In its letter, Grid explained that Deepwater had submitted a proposal for seven turbines which would reduce the cost per kWh, but by Grid’s calculation based on Deepwater’s assumed capacity factor, seven turbines would be too large to fit the statutory definition. Grid Exhibit 1 (Grid Filing Letter 10/15/09), p. 3.

<sup>8</sup> Grid Exhibit 1 (Grid Filing Letter 10/15/09), pp. 1-2.

<sup>9</sup> *Id.* at 2, 4-5.

<sup>10</sup> *Id.* at 2.

generation component.”<sup>11</sup> For example, Grid noted that the transmission cable, as a cost component to the overall project, is small. Therefore, according to Grid, “the benefits of the cable connection could be achieved by simply having National Grid construct and own the cable, without any renewable generation component.”<sup>12</sup> Finally, while Grid stated that being first “in the nation to host an operating off shore wind project” is a “worthy goal, it needs to be tempered by the reality of cost.”<sup>13</sup>

After receipt of this filing by Grid and after publishing a Notice of Pre-Hearing Conference and Intervention Deadline in the Providence Journal, Commission legal counsel conducted a pre-hearing conference on October 30, 2009. At the pre-hearing conference Grid and Deepwater stated that they were interested in returning to the negotiating table and believed they could file a signed PPA by November 13, 2009. A preliminary schedule was set based on those representations. On November 13, 2009, Grid filed a letter with the Commission stating that the parties were still involved in negotiations and a PPA would be forthcoming on November 18, 2009.

### **III. November 18, 2009 Filing**

On November 18, 2009, Grid filed “a new unsigned copy of a power purchase agreement for the potential purchase of renewable power from Deepwater.”<sup>14</sup> In its letter, Grid noted that most of the previously disputed non-price terms had been resolved. Furthermore, Grid indicated that Deepwater had provided a fixed-price arrangement that no longer included the reconciliation provisions for operation and maintenance expense and lower than expected output from the project. Grid indicated that the new price

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<sup>11</sup> *Id.* at 8.

<sup>12</sup> *Id.* at 10.

<sup>13</sup> *Id.*

<sup>14</sup> Grid Exhibit 5 (Grid Filing Letter 11/18/09), p. 1.

offered based on eight turbines was 25.3 cents per kWh with a 3.5% escalation rate. Grid indicated that they had been looking for a firm, unconditional price between 20 and 25 cents per kWh in 2013.<sup>15</sup>

Grid indicated that the parties had been unable to resolve the issue of potential benefits if Deepwater's capacity factor is higher than expected. Specifically, Grid stated that it had requested a pricing proposal that included "a reduction in the pricing if that capacity factor ultimately turns out to be better than the projected value used for purposes of calculating the pricing. This price reduction would share the benefit of that better-than-projected capacity factor between Deepwater and National Grid's customers."<sup>16</sup> Grid commented that "if the objective is to achieve a reasonably priced long term contract for renewable generation, compared to other potential renewable generation choices in the market...this project remains too expensive at a price of 25.3 cents per kWh."<sup>17</sup> However, if "the objective is to facilitate a small-scale off-shore wind demonstration project for Rhode Island, and also establish a transmission link to Block Island, there may be a rational basis for the Commission to approve the agreement."<sup>18</sup> Regardless of the goal, Grid stated that it did not endorse the agreement due to the high cost.<sup>19</sup>

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<sup>15</sup> *Id.* at 1.

<sup>16</sup> *Id.* at 2.

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> *Id.* at 3.

#### **IV. December 10, 2009 Purchase Power Agreement and Pre-Filed Testimony**

##### **A. National Grid's Direct Testimony**

###### *1. Testimony of Madison N. Milhous, Jr.*

Having addressed the price and non-price issues to Grid's satisfaction, Grid submitted the Pre-Filed Direct Testimony of Madison Milhous, Director of Wholesale Market Relations for the Energy Portfolio Management organization at Grid. The PPA attached to his testimony provided for an initial price of 24.4 cents per kWh, which was lower than what the Company had announced to the Commission in its earlier letters and resolved certain non-price issues.

In his pre-filed testimony, Mr. Milhous stated that Grid supports approval by the Commission of the PPA subject to two important caveats. Mr. Milhous indicated that "the price for the bundled energy in this PPA is relatively high compared to pricing we believe is likely to be available for potential renewable generation choices in the market" over the twenty-year term.<sup>20</sup> He noted that there may be important policy reasons for approving an above-market contract.<sup>21</sup> Second, Mr. Milhous maintained that the terms of the PPA should not set a precedent for the Commission's review of future projects.<sup>22</sup> He stated:

...if the Commission applies a 'commercial reasonableness' standard to this PPA in determining whether it should be approved, the Commission must be clear that it is only commercially reasonable in the context of a limited demonstration project that was statutorily capped at eight wind turbines or 30 MW....It is National Grid's view, however, that the terms and pricing in this PPA by no means represent what an experienced power market analyst would expect to see in

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<sup>20</sup> Grid Exhibit 8 (Pre-Filed Testimony of Madison N. Milhous, Jr.), pp. 15-16.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.* Mr. Milhous provided an illustration that if the entire 90MW Long-Term Contracting Requirement was priced at 24.4 cents per kWh, ratepayers could experience an above market cost of \$100 million in one year. *Id.* at 18.

transactions involving newly developed renewable projects generally, where the complexities associated with a small-scale demonstration such as this are not present.<sup>23</sup>

Mr. Milhous discussed the process which preceded the filing of the proposed PPA. He noted that Grid had rejected two proposals, the first of which included a variable price and the second, priced at 25.3 cents per kWh in 2013, was rejected. Mr. Milhous indicated that in rejecting the contract, Grid requested a further price reduction, a procedure for “tolling the annual escalation of Deepwater’s bundled price if Deepwater exercised a right to extend the term of the PPA,” and a mechanism to share in a higher-than-expected capacity factor.<sup>24</sup> He explained that Deepwater responded with a lower price of 24.9 cents per kWh in 2013 and a proposal to split the benefits associated with a higher-than-expected capacity factor 50/50 with Grid at the end of each contract year. On December 4, 2009, Deepwater lowered the price to 24.4 cents per kWh in 2013.<sup>25</sup> However, the PPA pricing does not include the cost of a transmission cable between Block Island and the mainland of Rhode Island.<sup>26</sup>

Mr. Milhous explained that under the PPA, the 24.4 cents per kWh in 2013 will be subject to a 3.5% escalation factor each year. However, in the event Deepwater extends the PPA term, the escalation factor will be tolled for the duration of the events that trigger the extensions.<sup>27</sup> Mr. Milhous calculated that “the pricing in the PPA results in a total estimated above market cost of approximately \$390 million over the twenty year term....”<sup>28</sup> Referring to price projections from Energy Security Analysis, Inc

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<sup>23</sup> Grid Exhibit 8 at 7.

<sup>24</sup> *Id.* at 10.

<sup>25</sup> *Id.* at 11.

<sup>26</sup> *Id.* at 19.

<sup>27</sup> *Id.* at 12.

<sup>28</sup> *Id.* at 13.



(“EASI”) and Synapse Energy Economics, Inc. (“Synapse”), Mr. Milhous stated that “the pricing included in the PPA is 2 times the Synapse forecast for energy and [Renewable Energy Certificates] (‘RECs’) in 2013, escalating to 2.6 times in 2032.”<sup>29</sup> However, in support of a twenty-year contract versus a fifteen-year term, Mr. Milhous stated that “the annual above market cost over a twenty year term is significantly lower, than over a fifteen year term, and on a net present value basis, the total cost of a twenty year contract only slightly exceeds that of a fifteen year contract.”<sup>30</sup>

## 2. *Testimony of Cliff W. Hamal*

Grid submitted the Pre-Filed Direct Testimony of its outside consultant, Cliff W. Hamal, a Director at LECG. Mr. Hamal indicated that he was tasked by Grid to “collect recent price data for renewable energy contracts....”<sup>31</sup> He stated that “the review and interpretation of electricity market price information is a routine element of my work....”<sup>32</sup> Mr. Hamal noted that there is limited data for offshore wind projects outside of Europe. Because certain price projections relative to European projects required the use of assumptions that “were not entirely straightforward,” he utilized only 2009 prices in those instances.<sup>33</sup> The 2009 prices ranged from \$196/MWh to \$230/MWh in the UK, Germany and France with other countries achieving lower prices.<sup>34</sup>

Reviewing Bluewater Wind’s PPA for offshore wind in Delaware, Mr. Hamal noted that the 2013 price is \$139/MWh with an annual escalation rate of 2.5%.<sup>35</sup> Mr. Hamal also reviewed an offshore wind project in Ontario at \$186/MWh, but noted that

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<sup>29</sup> *Id.* at 16.

<sup>30</sup> *Id.* at 17.

<sup>31</sup> Grid Exhibit 9 (Pre-Filed Testimony of Cliff W. Hamal), p. 1.

<sup>32</sup> *Id.*

<sup>33</sup> *Id.* at 3.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

the project will be built in the Great Lakes, a much shallower, freshwater environment than the Deepwater project.<sup>36</sup> He also noted that the pricing of the Ontario project includes a 40% premium compared to onshore wind. Furthermore, he noted that Ontario has taken a different approach to the procurement of renewable energy through the Ontario Power Authority which provides contracts to attract investment in new generation.<sup>37</sup>

Next, Mr. Hamal provided an Exhibit to his testimony that relied on a United States Department of Energy survey showing that onshore PPAs for the period 2006 through 2008 offered an average all-in price of \$48/MWh, with the range from \$20/MWh to \$126/MWh, unadjusted for inflation.<sup>38</sup> He noted that more recent pricing data is limited given the confidential nature of current contract pricing in many contracts.<sup>39</sup>

Finally, referring to the energy price forecasts discussed by Mr. Milhous, Mr. Hamal stated that they range from \$100/MWh to \$150/MWh during the period 2012 to 2031.<sup>40</sup> He noted that the “ESAI forecast is a long term study of the renewable energy supply and demand conditions in New England” and Rhode Island. The Synapse Report “developed projections of marginal energy supply costs that were avoided due to reductions in the use of” non-renewable energy resulting from the implementation of energy efficiency programs in New England.<sup>41</sup>

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<sup>36</sup> *Id.* at 3-4.

<sup>37</sup> *Id.* at 4-5.

<sup>38</sup> *Id.* at 5-6. Mr. Hamal noted that \$126/MWh appeared to be an outlier with the next highest price at \$80/MWh. *Id.*

<sup>39</sup> Grid Exhibit 9 at. 5.

<sup>40</sup> *Id.* at 6.

<sup>41</sup> *Id.*

### 3. *Testimony of Daniel Glenning*

Grid submitted the Pre-Filed Direct Testimony of Daniel Glenning, Manager of Distribution Substation Project Management. He indicated that he “was the project manager responsible for the transmission-related aspects of the RFP and the response to it.”<sup>42</sup> Mr. Glenning set forth the transmission proposal included in Deepwater’s response to Grid’s RFP and ensuing discussions between Deepwater and Grid regarding interconnection sites.<sup>43</sup>

Mr. Glenning testified that Grid has initiated a System Impact Study (“SIS”) the most important technical interconnection study required for connecting to the transmission system. He stated that the SIS “evaluates the impact of the interconnection on the reliability and operation of the interconnected transmission system.”<sup>44</sup> For purposes of the SIS, Mr. Glenning explained that in order to review the least cost interconnection option, Grid is considering a 34.5kV interconnection in Narragansett.<sup>45</sup>

Addressing costs, Mr. Glenning testified that in its response to Grid’s RFP, Deepwater provided a cost proposal that considered eleven key factors that he believed necessary for a sound cost estimate. However, Deepwater also submitted several revisions with varying cost estimates. Mr. Glenning noted that “Deepwater stated that a submarine cable project at this stage of development is difficult to break down into cost categories that match ‘material’, ‘equipment’ or ‘labor’.”<sup>46</sup> Therefore, with the caveat that “if Grid were to develop an independent cost estimate, it would not have one ready before the SIS is completed,” based on “the cost swings in Deepwater’s budgetary

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<sup>42</sup> Grid Exhibit 10 (Pre-Filed Testimony of Daniel Glenning), p. 3.

<sup>43</sup> *Id.* at 3-5.

<sup>44</sup> *Id.* at 6.

<sup>45</sup> *Id.*

<sup>46</sup> *Id.* at 7.

numbers,” Grid estimated the range of the transmission cable costs to be between \$35 million and \$50 million.<sup>47</sup> However, the cost recovery mechanism of the cable expense had not been determined between Grid and Deepwater.<sup>48</sup> Furthermore, he stated that Grid’s preference is to own the cable and therefore is planning under the assumption that Deepwater will be responsible for the cable construction and will transfer ownership to Grid at a cost to be determined.<sup>49</sup> As of the filing of his testimony, Mr. Glenning stated that Grid was working with Deepwater to better understand the cost, technical configuration and permitting issues associated with the project.<sup>50</sup>

#### *4. Testimony of David E. Tufts*

Grid submitted the Pre-Filed Direct Testimony of David E. Tufts, Director, Electric Distribution and Generation Revenue Requirements for National Grid USA Service Company, Inc. Mr. Tufts provided an analysis of the rate impact if the subject Project is approved. He used the midpoint of Mr. Glenning’s cost estimate for the cable portion of his analysis and \$244/MWh for the PPA portion. He estimated that during the first full year of operation in 2013, the project would result in a \$21.1 million rate increase to distribution customers that year. The monthly impact on a typical residential customer using 500 kWh per month would be \$1.35.<sup>51</sup>

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<sup>47</sup> *Id.* at 8.

<sup>48</sup> *Id.*

<sup>49</sup> *Id.* at 10.

<sup>50</sup> *Id.* at 9.

<sup>51</sup> Grid Exhibit 11 (Pre-Filed Testimony of David E. Tufts), pp. 3-4.

## B. Deepwater Wind's Direct Testimony

### 1. Testimony of David P. Nickerson

Deepwater submitted the Pre-Filed Direct Testimony of David P. Nickerson, Managing Member of Mystic River Energy Group, LLC, a consulting firm. Mr. Nickerson offered that “from the perspective of an experienced power supply analyst, that [the Project] meets the objectives set out by the State Legislature and that in light of the small scale and characteristics of this offshore wind project, the PPA is commercially reasonable.”<sup>52</sup> Mr. Nickerson stated that the above market value of the product delivered under the PPA is between \$98.7 and \$124 million in 2013 dollars. He stated that the above-market cost may be offset by “hard-to-quantify” real value to Rhode Island including direct and indirect economic benefits suggested by studies in other locales, electricity price suppression and natural gas price suppression which he did not attempt to quantify.<sup>53</sup> He noted that “all of the benchmarks are for places where there is infrastructure in place,” reducing the “first cost” and “industry risk”.<sup>54</sup>

Mr. Nickerson maintained that the terms of the PPA meet the goal of the Act, including stabilizing long-term energy prices through a fixed pricing structure, enhancing environmental quality by adding no-emission energy into the grid, creating jobs in Rhode Island by creating the opportunity for industry development, and facilitating the financing of renewable energy by providing a revenue stream through long-term contracts in order

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<sup>52</sup> Deepwater Exhibit 1 (Pre-Filed Testimony of David P. Nickerson), p. 2.

<sup>53</sup> *Id.* at 3-4. Mr. Nickerson noted that studies elsewhere suggested the value of the direct economic benefits could be approximately \$2.4 million and estimated electricity price suppression at a net present value of \$2.5 million. *Id.* at 4. In response to a Commission Pre-Hearing Request, Mr. Nickerson updated his cost estimates based on an updated discount rate. The above market differential in the revised testimony ranged from \$113.7 million to \$152.2 million in 2013 dollars, with electricity price suppression value of \$2.7 million. Deepwater Exhibit 8 at 3.

<sup>54</sup> Deepwater Exhibit 1 at 3-4.

for Deepwater to pay its loans.<sup>55</sup> Additionally, he stated that the PPA is consistent with the sizing requirements for the subject Project in the Act. He indicated that the small scale “turns out to be a key issue in determining whether the PPA is commercially reasonable, along with some other factors.”<sup>56</sup>

According to Mr. Nickerson, the size of the Project affects the installed cost, projected to be approximately \$6.96 million per MW whereas the smallest project he refers to has an installed cost of \$5.8 million per MW.<sup>57</sup> Mr. Nickerson argues that the cost is also affected by being first and therefore, this Project needs to be “cautiously” compared to other projects.<sup>58</sup> He also argues that the costs of on-shore wind are different because of the more complicated nature of installing off-shore turbines.<sup>59</sup> Additionally, referencing the deeper water of the location of the subject Project than others in a comparison group, he contrasts the costs in the subject Project and based on other studies, he adds an 11% premium on shallow-water projects. Mr. Nickerson states that based on this premium, the installed costs would increase from \$4.52 million to \$5.01 million per MW.<sup>60</sup> Based on his analysis after a review of several studies, including a 2009 California study, he testified that the installed costs of the subject Project are commercially reasonable.<sup>61</sup>

Turning to the PPA pricing and value, Mr. Nickerson stated that the Project has a credible operation date, but reduced the projected output of the Project for the first two

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<sup>55</sup> *Id.* at 8-11.

<sup>56</sup> *Id.* at 11-12.

<sup>57</sup> *Id.* at 12. He later refers to a California project of 50 MW with a projected \$6.95 million per MW installed cost. *Id.* at 19.

<sup>58</sup> *Id.* at 12-13.

<sup>59</sup> *Id.* at 14.

<sup>60</sup> *Id.* at 16-18.

<sup>61</sup> *Id.* at 19.

years, 2013 and 2014 to account for the fact that this Project is the first of its kind.<sup>62</sup> He explained the fixed pricing with the 3.5% adder and the possibility of a credit to Grid if the Project has a higher-than-expected capacity factor.<sup>63</sup> Calculating a seasonally weighted capacity factor of 45.3, the forward capacity market (“FCM”) value is expected to be approximately 13 MW.<sup>64</sup> He concluded that using a 2013 start date, a 20-year term, a 28.8 MW nameplate rating, a 40% capacity factor reduced during years one and two, and a discount rate of 8.98%, “the present value cost of the PPA is \$274.3 million, with a levelized price of \$306/MWH, both as of January 1, 2013.”<sup>65</sup> In order to develop the above-market cost of the Project, Mr. Nickerson calculated the market value of the products delivered to Grid, including, energy, “Renewable Energy Certificates” (“RECs”), locational adjustments, and a carbon allowance adder. The result of his calculations was an above-market cost of \$124,423 million over the life of the contract, in 2013 dollars, assuming no delays in a start date.<sup>66</sup> Mr. Nickerson also calculated electricity price suppression at \$164,000 per year, or approximately \$2.5 million over the life of the contract.<sup>67</sup>

Addressing specific terms of the PPA for commercial reasonableness, Mr. Nickerson suggested that the provision indicating that the Project is not delivering

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<sup>62</sup> *Id.* at 20-21.

<sup>63</sup> *Id.* at 21-22. The credit would be “half of the surplus at the then current Bundled Price in \$/MWH, as adjusted for the FCM payments. *Id.* at 22.

<sup>64</sup> *Id.* at 22-23.

<sup>65</sup> *Id.* at 24-25. Use of a 7.2% discount rate, the present value cost of the PPA is \$319.2 million, with a levelized price of \$311/MWH, both as of January 1, 2013. Deepwater Exhibit 8 at 25.

<sup>66</sup> Deepwater Exhibit 1 at 25-44, Exhibit G. Mr. Nickerson’s analysis included an analysis of natural gas pricing, NYMEX electricity futures, locational adjustments, valuation of CO<sub>2</sub>, and REC prices. *Id.*

<sup>67</sup> *Id.* at 48.

capacity could be clearer, but is sufficient.<sup>68</sup> Turning to the above-market cost under the PPA, Mr. Nickerson stated:

Based on today's market price of electricity, capacity and RECs, if the decision were between contracting for the output and RECs from the Block Island Wind Farm versus the least-cost newly developed renewable energy alternative available today (likely the production from a large-scale wind farm several states or provinces away), without any further considerations, a determination of commercial reasonableness may be different in this instance.<sup>69</sup>

However, he maintained that because of the policy goals set forth in the Act as set forth earlier in his testimony, they should be taken into account when reviewing the PPA.<sup>70</sup> Based on these policy considerations, the sizing restrictions, and all other items contained in his testimony, Mr. Nickerson concluded that the PPA is commercially reasonable.<sup>71</sup>

## 2. *Testimony of William M. Moore*

Deepwater submitted the Pre-Filed Direct Testimony of William M. Moore, Chief Executive Officer of Deepwater Wind Holdings, LLC, the parent entity of Deepwater Wind Rhode Island, LLC, and Deepwater Wind Block Island, LLC. Noting that the PPA represented full agreement by the parties of all points, he stated that “the execution of a power purchase agreement is a necessary precursor to developing and financing of any renewable energy project....”<sup>72</sup> He explained that Deepwater is involved in developing the subject Project and a larger wind farm. He stated that at the culmination, Deepwater “will have established a manufacturing/assembly base at Quonset point to support the construction and operation of these facilities.”<sup>73</sup> He noted that the State of Rhode Island

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<sup>68</sup> *Id.* at 44.

<sup>69</sup> *Id.* at 45.

<sup>70</sup> *Id.* Mr. Nickerson also argued that the Massachusetts Department of Public Utilities recently approved a solar project proposed by Grid even though it was an above-market contract, the Commission should rely on their reasoning and substitute wind for solar in its analysis. *Id.* at 45-47.

<sup>71</sup> *Id.* at 49-50.

<sup>72</sup> Deepwater Exhibit 3 (Direct Testimony of William M. Moore), p. 2.

<sup>73</sup> *Id.*



had supported the project through executive and legislative actions. He indicated that the subject Project is tailored to meet the requirements of state law. Finally, he stated that Deepwater had already invested millions of dollars in support of its efforts in Rhode Island.<sup>74</sup>

According to Mr. Moore, renewable energy, and more particularly, offshore wind, is important to Rhode Island to address challenges associated with adding new sources of generation, importing power, and managing price volatility.<sup>75</sup> He maintained that utility scale offshore wind is less expensive than solar, wave/tidal/ocean current or new nuclear. He also stated that “offshore wind relies on proven energy conversion technology, using off-the-shelf components that can be sourced in the U.S. and maintained by local labor.”<sup>76</sup> Thus, Mr. Moore argued that becoming a leader in the development of a hub for construction and maintenance of offshore wind farms could make Rhode Island a “prime beneficiary of the transition to renewable energy that our country is now going through.”<sup>77</sup> Furthermore, he argued, all ratepayers will benefit from the immediate increase in environmental quality resulting from more renewable energy flowing into the regional system.<sup>78</sup>

Mr. Moore summarized the activities the State of Rhode Island has undertaken in support of offshore wind, including the development of an Ocean Zone Special Area Management Plan (“SAMP”) undertaken by the Coastal Resources Management Council (“CRMC”). The goal of the SAMP is to zone the waters off Rhode Island’s shore for several purposes. Second, the Department of Administration selected Deepwater as its

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<sup>74</sup> *Id.* at 2-3.

<sup>75</sup> *Id.* at 3.

<sup>76</sup> *Id.* at 4.

<sup>77</sup> *Id.*

<sup>78</sup> *Id.* at 4-5.

preferred developer of offshore wind projects through a competitive solicitation process. Finally, the State entered into a Joint Development Agreement (“JDA”) with Deepwater to support Deepwater’s activities in developing two offshore wind farms. According to Mr. Moore, the JDA expects Deepwater to engage in various economic development activities.<sup>79</sup> Mr. Moore stated that “the State has made contractual commitments to the development of the offshore wind industry in Rhode Island through its Joint Development Agreement with Deepwater Wind....”<sup>80</sup>

Addressing the Commission’s review of the PPA, Mr. Moore urged that when considering whether the PPA is commercially reasonable, the Commission should “take into account the sizing restrictions placed by the legislation, and the PPA should be evaluated in light of the size and scope of the facility.”<sup>81</sup> Furthermore, Mr. Moore maintained that the commercially reasonable standard should include consideration of whether the PPA will facilitate “the financing of renewable energy generation within the jurisdictional boundaries of the State or adjacent state or federal waters.”<sup>82</sup> Mr. Moore maintained that the Project satisfies the goals of the Act by (1) being a newly developed renewable energy resource; (2) establishing fixed pricing for contract purchases for twenty (20) years; (3) displacing fossil fuel power; (4) facilitating the financing of renewable energy generation; and (5) initiating activities toward establishing a renewable industry in Rhode Island.<sup>83</sup> Furthermore, he stated that a smaller project could be built

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<sup>79</sup> *Id.* at 9-10.

<sup>80</sup> *Id.* at 13.

<sup>81</sup> *Id.* at 11.

<sup>82</sup> *Id.*, *citing*, R.I.G.L. §39-26.1-1 (Purpose of the Act).

<sup>83</sup> Deepwater Ex. 3 at 12.

more quickly than a larger project. Finally, he noted that the project would include a transmission line from Block Island to the mainland.<sup>84</sup>

Addressing the terms of the PPA, Mr. Moore stated that they are commercially reasonable if one adds to the statutory definition that the Commission “should take into account the specific legislative context for the ‘Town of New Shoreham Project’, and in particular, the sizing limitation to 30 MW.” Noting that the PPA before the Commission includes many “market-standard concepts”, there are several project-specific terms also included. First, Mr. Moore noted that the PPA allows Deepwater to extend its project completion deadline until December 31, 2017, or five years, during which the escalation provision in the PPA will be tolled. He stated that:

This provision is intended to address the possibility that Deepwater Wind will not receive all of the permits necessary to build and operate the Block Island Wind Farm on a timely basis. Permitting an offshore wind farm is an elaborate process that requires collaboration and coordination across multiple state and Federal agencies, and, with the Block Island Wind Farm is being done for the first time. Any number of complications could cause the schedule to slip, and to make the target commercial operation date unachievable.<sup>85</sup>

He further stated that this provision would allow Deepwater to respond to financing complications, including a downturn in the markets or loss of “vital Federal tax incentives.”<sup>86</sup>

Next, Mr. Moore noted that because of the intermittent nature of wind, Section 4.1 of the PPA requires power to be sold to Grid when it is available.<sup>87</sup> Section 4.4 provides that if the transmission cable between Block Island and the mainland is not available, Grid is not obligated to purchase the power, but Deepwater may extend the

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<sup>84</sup> *Id.* at 15-16.

<sup>85</sup> *Id.* at 18-19.

<sup>86</sup> *Id.* at 19.

<sup>87</sup> *Id.*

term of the contract by the duration of the outage. He stated that this provision provides assurances of a revenue stream to project finance leaders for purposes of repayment of loans.<sup>88</sup> Similarly, according to Mr. Moore, Section 10.3 provides that any nonperformance by either party through the occurrence of a force majeure event in excess of sixty (60) days would allow Deepwater to extend the term of the contract, providing assurances to lenders.<sup>89</sup> Sections 4.4 and 10.3 provide for a tolling of the price escalation during the related event.<sup>90</sup>

Addressing the 3.5 percent escalation rate, Mr. Moore confirmed that “there is no market norm for escalation rates for power purchase agreements...” but argued that it is commercially reasonable because it allows for a lower price during the early years, delaying Deepwater’s recovery of its investment, thus providing a benefit to ratepayers.<sup>91</sup> Further discussing pricing, Mr. Moore stated that because the definition of “commercially reasonable”, set forth in the Act, is a standard intended “to apply to a series of solicitations and power purchase contracts contemplated by the Act, [Deepwater] believe[s] that it is appropriate to take the specific legislative context into account” as it refers to the Town of New Shoreham Project. With those qualifications, Mr. Moore argued that the price is commercially reasonable.<sup>92</sup>

Finally touching upon a future proposed utility scale wind farm, the Rhode Island Sound project, Mr. Moore testified that he expected the installation and operational costs to be lower.<sup>93</sup> In support of his assertion, Mr. Moore opined that the utility scale project

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<sup>88</sup> *Id.* at 19-20.

<sup>89</sup> *Id.* at 20.

<sup>90</sup> *Id.* at 19-20.

<sup>91</sup> *Id.* at 20.

<sup>92</sup> *Id.* at 21.

<sup>93</sup> *Id.*

would benefit from quantities of scale, larger output over which to amortize costs, resolution of the “existing gaps in the supply chain for offshore wind at present [including] lack of suitable heavy-lift vessels; service vessels and crews; [and] adequate quayside port facilities....”<sup>94</sup> However, Mr. Moore would not commit to a specific price at this time.<sup>95</sup>

## V. Town of New Shoreham’s Testimony

### A. Direct Testimony of Richard La Capra

On January 19, 2010, the Town of New Shoreham (“Town”) submitted the Pre-Filed Direct Testimony of Richard La Capra, a consultant on energy and regulatory issues. Mr. La Capra stated that the Town is not objecting to approval of the PPA between Deepwater and Grid. However, he did not provide an opinion as to whether the PPA meets the standards for approval. He supported Grid’s position that R.I.G.L. § 39-26.1-7 created unique circumstances for evaluating the PPA and further, if approved, should not set precedent for the reasonableness of future contracts.<sup>96</sup>

Addressing the underwater cable from Block Island to the mainland, Mr. La Capra stated that “the primary requirement is that the overall economics of the cable are sound.”<sup>97</sup> He stated that while it is appropriate to rule on a PPA even without the transmission line, he stated that “the ultimate ownership by either National Grid or DWW and classification by ISO-New England (“ISO-NE”) would be essential factors to consider in evaluating the project.”<sup>98</sup> Finally, Mr. La Capra stated that the Town believed

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<sup>94</sup> *Id.* at 22.

<sup>95</sup> *Id.*

<sup>96</sup> Town Exhibit 1 (Pre-Filed Testimony of Richard La Capra), pp. 3, 5.

<sup>97</sup> *Id.* at 4.

<sup>98</sup> *Id.*

that the Commission need not and should not rule on cost allocation issues related to the cable as part of this docket. He proposed a separate proceeding to address cost allocations once the ownership of the cable is determined, the classification of the cable is determined, and the characteristics and contractual arrangements between Deepwater and Grid are presented.<sup>99</sup>

## VI. EDC's Testimony

### A. Direct Testimony of Fred S. Hashway

On January 20, 2010, the Economic Development Corporation ("EDC") submitted the Pre-Filed Direct Testimony of Fred S. Hashway, Director of Government Affairs, Policy, and Communications. Mr. Hashway explained that EDC has worked closely with Governor Carcieri's office and with Deepwater to aid in the realization of "the commitments that Deepwater has made to the economic development of a renewable energy business in Rhode Island."<sup>100</sup> He stated that "EDC's interest in this project is to help facilitate the commitments made by both the General Assembly, and the Governor, and with Deepwater, towards the development of a successful renewable energy sector in Rhode Island."<sup>101</sup> Mr. Hashway outlined certain specifics of the economic development efforts which are all part of Deepwater's efforts to establish Rhode Island-based operations.<sup>102</sup>

With regard to the specific proposal before the Commission, Mr. Hashway indicated that he is not an experienced power marketer and therefore, "cannot offer an opinion on whether the price meets the standard. However, while EDC takes no position

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<sup>99</sup> *Id.* at 6-10.

<sup>100</sup> EDC Exhibit 1 (Pre-Filed Testimony of Fred S. Hashway), p. 3.

<sup>101</sup> *Id.* at 4.

<sup>102</sup> *Id.* at 4-5.

on what price is deemed a ‘commercially reasonable’ price...the EDC does have a special interest in the terms and implementation of the contract, including its expeditious execution.”<sup>103</sup> He indicated that because the State of Rhode Island has identified the development of a robust renewable energy portfolio as a goal and the EDC has included in its mission to develop a “green economy,” including development of Quonset, “EDC supports the project that Deepwater Wind has proposed, as represented in the PPA that is before the Commission for review.”<sup>104</sup>

Ms. Hashway suggested that in its review of the PPA, the Commission should consider the goal of promoting “the development of jobs in the renewable energy sector of our economy.”<sup>105</sup> Mr. Hashway elaborated that if Rhode Island is the first state to realize an off-shore wind farm, it will “have the potential to leverage its ‘first mover’ status...” to locate infrastructure necessary to support a developing industry.<sup>106</sup> He clarified that the first mover status does not guarantee that the initial investment will result in a large scale renewable energy sector, but that such investment is an important step in the development of any new industry.<sup>107</sup> He opined that the advantage of the investment, if it resulted in local growth of a new industry could provide “a significant market opportunity” for Rhode Island in serving the region.<sup>108</sup> Additionally, he maintained that investment in the Deepwater project could lead to local jobs.<sup>109</sup>

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<sup>103</sup> *Id.* at 5.

<sup>104</sup> *Id.* at 5-6.

<sup>105</sup> *Id.* at 6.

<sup>106</sup> *Id.*

<sup>107</sup> *Id.* at 7.

<sup>108</sup> *Id.* at 8, 10.

<sup>109</sup> *Id.* at 8. Mr. Hashway cited Deepwater’s response to Division Data Request 1-1 wherein Deepwater indicated that the subject project was expected to require 35-50 local construction jobs and 6 permanent full time equivalent jobs, with the potential for at least 600 jobs if the utility scale project is built. *Id.* at 8 *citing* Deepwater’s Response to Division 1-1.

Addressing other benefits to Rhode Island, Mr. Hashway noted that stable, competitive and predictable energy pricing is beneficial to business development. He believed that the instant project together with the utility scale project could provide a hedge against price spikes. He also believed that Block Island ratepayers would benefit from lower cost power associated with a transmission cable to the mainland.<sup>110</sup> EDC's support for the project can be summed up in Mr. Hashway's statement that investment in the Block Island project "will provide short term benefits through jobs, income and other revenue, but is part of a larger, more strategic initiative."<sup>111</sup>

## **VII. RIBCTC's Testimony**

### *A. Direct Testimony of Michael F. Sabitoni*

On January 20, 2010, the Rhode Island Building and Construction Trades Council ("RIBCTC") submitted the Pre-Filed Direct Testimony of Michael F. Sabitoni, its President. Mr. Sabitoni stated that the RIBCTC supports the approval of the PPA between Deepwater and Grid. Noting that one of the goals of the Act is to create jobs in the renewable energy sector, he stated, "the labor of workers represented by RIBCTC's member unions is essential to the construction of this project, while this project is in turn crucial to the creation of jobs and livelihood of those workers."<sup>112</sup>

Mr. Sabitoni elaborated that Rhode Island could gain a competitive advantage by being the first state to enter the renewable energy market for offshore wind development. He maintained that the first state would be the first to develop a uniquely qualified workforce, to locate assembly and manufacturing sites, and to become a hub for the

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<sup>110</sup> EDC Exhibit 1 at 9.

<sup>111</sup> *Id.* at 11.

<sup>112</sup> RIBCTC Exhibit 1 (Pre-Filed Direct Testimony of Michael F. Sabitoni), pp. 1-2.



assembly and manufacture in the national offshore wind industry.<sup>113</sup> This he opined, would lead to even more jobs than projected by Deepwater Wind for the construction of the instant project and the utility scale project.<sup>114</sup>

## VIII. Division's Direct Testimony

### A. Direct Testimony of Richard S. Hahn

On February 2, 2010, the Division of Public Utilities and Carriers ("Division") submitted the Pre-Filed Direct Testimony of Richard S. Hahn, its consultant, regarding the Division's review of the PPA. Mr. Hahn concluded that the price in the PPA is "at the high end of the range of expected prices for other comparable renewable energy projects," less than only solar projects.<sup>115</sup> He further indicated that the internal rate of return ("IRR") on the Deepwater project is higher than would be expected and a lower PPA price is possible and would reduce the subsidy being provided by Rhode Island ratepayers.<sup>116</sup> Mr. Hahn also noted that the PPA does not include a transmission cable from the island to the mainland, something that will add to the cost to ratepayers.<sup>117</sup> He calculated the above-market cost of the Project over its lifetime of \$521.02 million, or \$219.72 million if calculated at net present value.<sup>118</sup>

Mr. Hahn cited several provisions of the Act and Rhode Island General Laws and stated that based on those provisions, "the definition of commercially reasonable means terms and prices for other projects that" use technologies that qualify under the RES, have credible in-service dates, and are located within New England or adjacent control

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<sup>113</sup> *Id.* at 4.

<sup>114</sup> *Id.* at 4-5.

<sup>115</sup> Division Exhibit 1 (Pre-Filed Direct Testimony of Richard S. Hahn), p. 3.

<sup>116</sup> *Id.*

<sup>117</sup> *Id.* at 4-5.

<sup>118</sup> *Id.* at 26. Mr. Hahn relied on the ESAI energy and REC forecasts. *Id.* at 19.

areas.<sup>119</sup> Mr. Hahn believed that while a project may have had to provide benefits to Block Island in order to be responsive to the RFP issued by Grid and in compliance with the Act, such benefits are not a required part of the definition of commercially reasonable.<sup>120</sup> Mr. Hahn stated that “if the commercially reasonable standard meant only comparing the terms and pricing of Deepwater to other projects that benefit the Town of New Shoreham, it would become a self referent standard.”<sup>121</sup> He indicated that logic dictates that the Town of New Shoreham project legislation required the winning bidder to have its project compared to other eligible renewable projects as defined in Rhode Island law.<sup>122</sup>

Mr. Hahn testified that based on data provided by Deepwater, the IRR, or “the discount rate that will return the initial equity investment on a net present value basis over a specific period of time...” is 98.6%, well above the 12-15% typically found. Mr. Hahn stated that he based this calculation on a capitalization structure of 80% debt and 20% equity, referring to Deepwater’s response to Division Data Request 1-18. He calculated that even at a 50% debt level, the IRR would be 21.2%.<sup>123</sup> Furthermore, he believed Deepwater’s O&M expenses were overstated. He stated that “such high IRRs would be more acceptable if the PPA price were close to or only slightly above market prices. There is no dispute, however, that the Deepwater PPA price is substantially above market levels.”<sup>124</sup> He calculated that prices between \$170/MWH and \$214/MWH would

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<sup>119</sup> *Id.* at 6-10.

<sup>120</sup> *Id.* at 10-11.

<sup>121</sup> *Id.* at 11.

<sup>122</sup> *Id.* When comparing the subject Project to other renewable energy projects, Mr. Hahn included the cost of the cable from Block Island to the mainland. *Id.* at 15.

<sup>123</sup> *Id.* at 13-14, 20, 22-24.

<sup>124</sup> *Id.* at 24.

yield an IRR in the 15% to 18% range, noting further that if his installed cost assumption was too high, the price could be reduced even further.<sup>125</sup>

He stated that “the commercially reasonable standard in the legislation is an appropriate mechanism to help ensure” that ratepayers in Rhode Island pay the lowest subsidy required to allow the project to be constructed. He stated that based on his calculations, the price could be lowered, saving ratepayers \$109 million while still providing the project the subsidy it needs to be built. He argued that Deepwater be required to show why a lower price would hinder the successful development of the project.<sup>126</sup> He concluded the pricing analysis by stating that “the Company and Deepwater should be encouraged to attempt to arrive at a revised PPA price that reflects a more just and reasonable balance between the interests of ratepayers and the desire to jump start a nascent renewable energy business in Rhode Island.”<sup>127</sup>

Addressing non-price terms of the PPA, Mr. Hahn first suggested the modification of the definition of “Operational Limits” as they appeared to be applicable to fossil-fuel generation rather than wind.<sup>128</sup> He also suggested that the definition of “Commercial Operation Extension” be modified in order to clarify when such an extension can be pursued by Deepwater.<sup>129</sup> Addressing capacity price, Mr. Hahn suggested that the capacity sold prior to commercial operation should be tied to the Forward Capacity Market prices rather than the Locational Marginal Pricing, an energy rate.<sup>130</sup> Mr. Hahn proposed a modification to Deepwater’s right of Assignment to require

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<sup>125</sup> *Id.* at 25.

<sup>126</sup> *Id.* at 26.

<sup>127</sup> *Id.*

<sup>128</sup> *Id.* at 27.

<sup>129</sup> *Id.* at 27-28.

<sup>130</sup> *Id.* at 28.

Grid's consent, not to be unreasonably withheld, prior to the assignment in order to "prevent an unwarranted transfer of Deepwater's obligations under this agreement to the detriment of Rhode Island ratepayers."<sup>131</sup> Finally, Mr. Hahn noted that additional turbines could be installed at a lower cost. He stated that if Deepwater adds to the Block Island wind farm, Deepwater should be required to first offer the incremental output to Grid.

If [Grid] declines to purchase this incremental output, then Deepwater may offer the output to third parties. However, [Grid] should have the right, but not the obligation, to have the rate for this sale to third parties apply to the PPA for the first eight turbines. This will ensure that [Grid] ratepayers do not further subsidize the development of additions to this project.<sup>132</sup>

## **IX. Deepwater Wind's Rebuttal and Supplemental Testimony**

### ***A. Deepwater Wind's Rebuttal Testimony***

#### *1. Rebuttal Testimony of David P. Nickerson*

On February 16, 2010, Deepwater submitted the Rebuttal Testimony of David P. Nickerson in response to issues raised in this docket. Mr. Nickerson disagreed with Mr. Hahn's conclusions regarding the real levelized price of the Project compared to seventeen other projects because, Mr. Nickerson maintained, "it is reasonable and appropriate to compare Deepwater Wind's cost to that of other projects that can serve the same purpose."<sup>133</sup> Therefore, according to Mr. Nickerson, any project to which the subject Project is to be compared must provide newly developed renewable energy resources to Rhode Island while enhancing the electric reliability and environmental quality of Block Island. The comparable project, according to Mr. Nickerson, must also

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<sup>131</sup> *Id.* at 28.

<sup>132</sup> *Id.* at 28-29.

<sup>133</sup> Deepwater Exhibit 2 (Rebuttal Testimony of David P. Nickerson), pp. 1-2.

be the same size as the Block Island Project.<sup>134</sup> Mr. Nickerson argued that Mr. Hahn's comparables were not reasonable because they did not fit this stated criteria. Additionally, he disagreed with the inclusion of the cable costs in the analysis of this PPA where the cable costs are not included in the PPA price.<sup>135</sup> Addressing each of the comparables used by Mr. Hahn, Mr. Nickerson testified that they were either in the wrong location for pricing relevancy, were too large for size comparison, were too generic and not based on actual projects, did not qualify under the RI RES Rules, or had favorable contract terms not included in this PPA, affecting the pricing analysis.<sup>136</sup> However, despite the differences, Mr. Nickerson opined that the difference between Mr. Hahn's real levelized cost of the PPA and his was the projected value of capacity.<sup>137</sup>

Addressing Mr. Hahn's concerns associated with Deepwater's right to delay the Commercial Operation date for up to five years, Mr. Nickerson noted that the pre-Commercial Operation sales would be considered "test energy" and he opined that absent project delays, "it is unlikely that the project's lenders would tolerate" an extended time period during which to sell 'test energy' and that Deepwater would have a clear incentive to sell the power at the PPA price rather than at straight market pricing.<sup>138</sup> In addition, he stated that there would most likely be no capacity delivered per current ISO market rules.<sup>139</sup> Finally, he stated, "the pricing structure for RECs delivered pre-Commercial Operation provides compensation at a reasonable short term proxy for market prices and therefore should present minimal risk or benefit to National Grid or its ratepayers."<sup>140</sup>

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<sup>134</sup> *Id.* at 2, 4.

<sup>135</sup> *Id.* at 3.

<sup>136</sup> *Id.* at 6-13.

<sup>137</sup> *Id.* at 13.

<sup>138</sup> *Id.* at 15.

<sup>139</sup> *Id.*

<sup>140</sup> *Id.* at 15-16.

With regard to Deepwater's unencumbered ability to assign the PPA to an affiliate or in conjunction with financing, Mr. Nickerson believed that this was a routine provision in PPAs and would be necessary to allow Deepwater to obtain financing and utilize available tax credits.<sup>141</sup>

## 2. *Rebuttal Testimony of William M. Moore*

On February 16, 2010, Deepwater submitted the Rebuttal Testimony of William M. Moore in response to issues raised in the docket. He stated that the subject Project would allow Deepwater and suppliers to build a supply chain, alleviating some of the challenges a large-scale wind farm may face.<sup>142</sup> He indicated that the proposed jacket foundation is more cost-effective in deep water situations.<sup>143</sup> He stated that "the Block Island Wind Farm is not being used to prove that an offshore wind farm is viable from a technological standpoint."<sup>144</sup> Rather, the proposed Project will "demonstrate that offshore wind projects are viable in the United States from the point of view of community support, environmental permitting, and other regulatory obstacles....it is the building of a specific regulatory, political and stakeholder environment in the United States that needs to be established."<sup>145</sup>

With regard to determining whether the PPA is commercially reasonable, Mr. Moore stated that the Commission needs to determine "whether the price negotiated by

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<sup>141</sup> *Id.* at 16. In the final portion of his testimony, Mr. Nickerson addressed issues raised by a consultant for intervenors who withdrew from the case and whose testimony is not evidence in the record. Mr. Nickerson did not agree that National Grid's REC price forecast was too high. He disagreed that there is a trend to allow existing RECs to qualify as new. He noted that imports into New England impact the New England REC market, but indicated it is not a significant impact. Finally, Mr. Nickerson opined that based on studies, the Project would positively impact Block Island's environmental quality without adversely affecting the ISO-NE generation system. *Id.* at 17-26.

<sup>142</sup> Deepwater Exhibit 4 (Rebuttal Testimony of William Moore), p. 2.

<sup>143</sup> *Id.* at 3. Mr. Moore referenced Deepwater's response to Commission Data Requests 5-20 and 5-21 wherein Deepwater discussed the reasons it believed monopile foundations are not a better choice than jacket foundations.

<sup>144</sup> Deepwater Exhibit 4 at 4.

<sup>145</sup> *Id.*

Deepwater Wind and National Grid for not more than 30 MW, that improves the electric reliability and environmental quality of the Town of New Shoreham, and contemplates a transmission line connecting Block Island to the mainland grid, is commercially reasonable.”<sup>146</sup> According to Mr. Moore, a comparison to “other eligible renewable projects as defined by Rhode Island law,” as suggested by Mr. Hahn, would be irrelevant to the Commission’s consideration of the subject Project.<sup>147</sup>

With regard to provisions of the PPA, Mr. Moore testified that Deepwater is taking risks that will not impact the PPA price, specifically as they relate to the potential for increased construction costs and delays, a change in the value of the U.S. dollar, lower-than-anticipated production, and increased operational costs.<sup>148</sup> He also stated that Deepwater is responsible for decommissioning costs.<sup>149</sup> Furthermore, Mr. Moore testified that the pricing in the PPA before the Commission is not intended to set precedent for a future utility scale project.<sup>150</sup>

Addressing the transmission cable, Mr. Moore stated that there was no transmission cable agreement yet in place for the cable between Block Island and the mainland, but opined that because the pricing in the PPA would not be affected by the transmission cable agreement, the Commission could render a decision without the transmission cable agreement.<sup>151</sup> He clarified that while there is a provision in the PPA that would allow for renegotiation of the contract if Grid chooses not to own the transmission cable, “Deepwater has not seriously contemplated any alternative to this

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<sup>146</sup> *Id.* at 7.

<sup>147</sup> *Id.* at 6.

<sup>148</sup> *Id.* at 8-9.

<sup>149</sup> *Id.* at 10.

<sup>150</sup> *Id.* at 9.

<sup>151</sup> *Id.* at 11-12.

arrangement [Grid owning the cable], and could not do so without making significant changes to its business plan in consultation with its investors.”<sup>152</sup>

Addressing economic development potential, Mr. Moore stated that “the State has decided that first move advantage is an important factor in creating jobs in Rhode Island.”<sup>153</sup> He noted that the JDA set forth economic milestones designed to assist Rhode Island in being the first state to develop offshore wind.<sup>154</sup> In response to criticism that the subject Project will not create many jobs in Rhode Island, Mr. Moore stated:

The Block Island Wind Farm is a first, but firm, step in the direction of a larger project in Rhode Island Sound, and hopefully many more projects built by us, as well as by other developers in the Northeast United States. By establishing our operations in Quonset, Deepwater Wind, and others in Rhode Island, believe that the State can serve as a magnet for other businesses. But building an industry from scratch is a difficult, challenging thing, and we think the Block Island Wind Farm Project is a sound way to start.<sup>155</sup>

#### *B. Deepwater Wind's Supplemental Rebuttal Testimony*

On February 25, 2010, Deepwater submitted the Supplemental Rebuttal Testimony of William M. Moore to address Mr. Hahn's IRR analysis. Mr. Moore testified that Mr. Hahn should have analyzed the Project assuming an unlevered rate of return not taking into account debt financing and associated tax consequences. Because this is the first offshore wind farm in the United States to seek financing, the terms are unknown. Mr. Moore stated that Deepwater's unlevered rate of return is confidential, but ranges from the high single digits to low teens. He maintained that Deepwater's rate of

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<sup>152</sup> *Id.* at 12.

<sup>153</sup> *Id.* at 13.

<sup>154</sup> *Id.*

<sup>155</sup> *Id.* at 14.



return was in the range of appropriate returns set forth by Mr. Hahn, especially taking into account the unique aspects of the project and associated risks.<sup>156</sup>

Mr. Moore testified that Mr. Hahn's analysis contained errors. Addressing Mr. Hahn's treatment of certain federal tax credits, Mr. Moore stated that it was inaccurate to assume 100% of the entire capital cost will qualify for the Section 1603 Treasury Cash Grant program. This results in giving the project credit for funds it cannot claim and will not receive. Additionally, Mr. Hahn assumed that most of the grant will be distributed to equity investors whereas, Mr. Moore testified that it was likely lending institutions would be seeking the grant to pay down the debt.<sup>157</sup> Next, Mr. Moore stated that contrary to Mr. Hahn's assumption, Deepwater's investors will not receive more than their investment during the first year of operation through payment of the cash grant, but will either pay it to lenders or share it in proportion to the debt-to-equity ratio.<sup>158</sup> According to Mr. Moore, this dramatically affects the triple digit return cited by Mr. Hahn in his testimony.<sup>159</sup>

Next, Mr. Moore criticized Mr. Hahn's assumptions regarding the timing of capital expenditures. He stated that in 2009, Deepwater invested in studies and permitting activities, in 2010, will need to make down-payments on equipment in order to qualify for certain federal tax incentives, in 2011, will need to make certain payments under equipment contracts, secure vessel charters and commence construction, and in 2012, will incur additional equipment, vessel and labor related costs.<sup>160</sup> According to Mr. Moore, Deepwater believes that taking into account this spending curve, which differs

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<sup>156</sup> Deepwater Exhibit 5 (Supplemental Rebuttal Testimony of William M. Moore), p. 2.

<sup>157</sup> *Id.* at 5-6.

<sup>158</sup> *Id.* at 6.

<sup>159</sup> *Id.*

<sup>160</sup> *Id.* at 7-8.

from onshore wind projects, would impact Mr. Hahn's results and significantly reduce his calculated rate or return.<sup>161</sup>

Mr. Moore maintained that Mr. Hahn's assumptions that the entire capital cost of the project would qualify under the Modified Accelerated Cost Recovery System ("MACRS") resulted in an overstated value of MACRs and therefore overstated the IRR. Additionally in assuming that the entire value of tax deductions are fully monetized as cash flow to Deepwater is an aggressive assumption that would require Deepwater to be earning significant profits from other projects to offset such tax deductions.<sup>162</sup>

Addressing Mr. Hahn's alternative O&M cost assumptions, Mr. Moore argued that Deepwater's assumptions are based on extensive research. Because Mr. Hahn's assumptions were based on a confidential study of another project, Mr. Moore indicated Deepwater did not know whether the results of that study had been adjusted for scale. However, there had been no adjustment and Mr. Moore testified that he believed the "marginally higher rates of return associated with the assumed lower O&M costs, as shown by Mr. Hahn, are likely to be significantly moderated, if not eliminated in their entirety."<sup>163</sup> Finally, Mr. Moore stated that Mr. Hahn's model excludes typical debt reserves. Therefore, he stated that if Mr. Hahn had not made the alleged errors, the analysis would have shown that the IRR was within acceptable ranges.<sup>164</sup>

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<sup>161</sup> *Id.* at 8.

<sup>162</sup> *Id.* at 9.

<sup>163</sup> *Id.* at 10.

<sup>164</sup> *Id.* at 10-11.

## **X. Division's Surrebuttal Testimony**

### *A. Surrebuttal Testimony of Richard S. Hahn*

On March 2, 2010, the Division submitted the Surrebuttal Testimony of Richard S. Hahn in response to Deepwater's Rebuttal and Supplemental Rebuttal Testimony. Mr. Hahn stated that "after reviewing the rebuttal testimony filed by Deepwater, I found no reason to change any of the conclusions from my direct testimony."<sup>165</sup> Mr. Hahn noted that all parties conceded that the PPA pricing is above-market. Mr. Hahn suggested that when determining whether the contract pricing is commercially reasonable, the Commission should answer several questions: (1) How much above market is reasonable?; (2) Is \$400 million to \$500 million the appropriate amount of [ratepayer] subsidy?; (3) Will the approval of this small-scale project lead to the desired economic development gains?; and (4) Are the potential economic development benefits worth the cost of the above-market payments?<sup>166</sup>

Next, addressing Mr. Nickerson's testimony implying that the PPA arose out of a competitive solicitation, Mr. Hahn noted that while an RFP was issued, the sole response was submitted by Deepwater, the State's preferred developer for the utility-scale project.<sup>167</sup> Mr. Hahn argued that this indicated that:

There was no competition, let alone robust competition, that would help insure that Rhode Island consumers pay the lowest possible cost necessary to allow the Deepwater project to go forward. Based upon my experience with public procurements, I think it is a rare occurrence when a contract for \$700 million would be awarded based upon only a single bidder to a Request for Proposals.<sup>168</sup>

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<sup>165</sup> Division Exhibit 2 (Surrebuttal Testimony of Richard S. Hahn), p. 1.

<sup>166</sup> *Id.* at 3-4.

<sup>167</sup> *Id.* at 4.

<sup>168</sup> *Id.* at 4-5.

Referring back to his direct testimony, Mr. Hahn stated that in the absence of a truly competitive process, some other analysis, such as the one he performed as part of developing his direct, is required to determine that Rhode Island customers not pay more than absolutely necessary to subsidize the Deepwater project.<sup>169</sup>

Mr. Hahn disagreed that the only renewable energy projects to which the Deepwater proposal could be compared are those whose output is delivered to Block Island and which improve the reliability of Block Island's electrical service. Mr. Hahn stated that this implies that the cost of the transmission cable should be excluded from the comparison. He stated that if the Commission agreed with his view of commercially reasonable as defined by the Act, then the comparisons set forth in his direct were appropriate. He stated that "under that determination, it is clear that eligible renewable energy resources to which the Deepwater project is to be compared do not have to be delivered to Block Island and thus would not require construction of the cost of the Transmission Cable."<sup>170</sup> Regardless, he stated that "when the Cable costs are removed, Deepwater's real levelized gross cost per MWH is still higher than all other renewable energy technologies except for photovoltaic solar."<sup>171</sup>

Furthermore, responding to Mr. Nickerson's criticism that Mr. Hahn relied on Grid's capacity values rather than Deepwater's, Mr. Hahn stated that he recalculated the levelized net costs for the Project using Mr. Nickerson's capacity value and "the change in FCM capacity value alone lowers the real levelized net cost per MWH by less than \$3 per MWH."<sup>172</sup> He concluded that even with this adjustment and the removal of the

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<sup>169</sup> *Id.* at 5.

<sup>170</sup> *Id.* at 6.

<sup>171</sup> *Id.* at 8.

<sup>172</sup> *Id.* at 10.

transmission cable costs, this Project cost is still higher than all other technologies but for photovoltaic solar.<sup>173</sup>

Addressing the projects included in his direct testimony for comparison purposes, Mr. Hahn noted that Mr. Nickerson criticized them on the basis that “some are too small, others are too large, while yet others are not in the right location.”<sup>174</sup> Mr. Hahn stated that he was attempting to compare this Project to others that would qualify as newly developed renewable energy resources under Rhode Island law. He stated that “Deepwater did not offer any such comparisons to justify the PPA price it proposes.” He further noted that in addressing commercially reasonable pricing, Deepwater relied on “a single excerpt from a 2009 KEMA study done for the California Energy Commission.” Mr. Hahn stated that utilizing all of the relevant data from the KEMA study, “the PPA price is substantially higher than any technology, even PV solar, that is contained in the KEMA study upon which Mr. Nickerson solely relies.”<sup>175</sup>

Addressing Mr. Moore’s criticism of his IRR analysis, Mr. Hahn states that Mr. Moore has offered no competing analysis nor shown that the suggested changes would materially affect the outcome.<sup>176</sup> In response to Mr. Moore’s assertion that the IRR should be developed based on assuming 100% equity financing, Mr. Hahn stated that this is inappropriate, particularly where Deepwater has already indicated that it intends to use 80% debt financing. However, Mr. Hahn stated that a 50/50 debt equity structure is more

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<sup>173</sup> *Id.*

<sup>174</sup> *Id.* at 11.

<sup>175</sup> *Id.* at 12-13. Mr. Hahn criticized Mr. Nickerson’s reliance on the KEMA Study on the basis that Mr. Nickerson only compared the capital costs of the projects to the exclusion of the O&M costs. The O&M costs assumed in the study were lower than both those assumed by Deepwater and those used by Mr. Hahn.

*Id.* at 12.

<sup>176</sup> *Id.* at 17.

appropriate and consistent with the industry.<sup>177</sup> Citing First Wind Holdings, LLC's recent filing with the Securities and Exchange Commission which evidenced a capital structure of 53% debt and 47% equity, Mr. Hahn maintained that "it is unreasonable to assume that the Deepwater project will be financed with 100% equity, especially for the purposes of determining an expected rate of return."<sup>178</sup> Responding to Mr. Moore's position that the benefits of the federal cash grant will accrue to lenders rather than the equity investors, Mr. Hahn stated that while it is possible, there is no requirement this will occur. He noted that if the debt coverage ratios are adequate, such a requirement may not be required. Given Deepwater's assumptions regarding the capital costs and O&M costs, the Project has very good debt coverage ratios. Moreover, he stated, "even if the benefits of the cash grant do accrue to lenders, lower principal and interest payments will be required, improving cash flow to equity investors."<sup>179</sup> Because of the benefits provided by the cash grant, Mr. Hahn maintained that it was appropriate to include those benefits in the analysis.<sup>180</sup> Because he was able to closely reproduce the Deepwater IRR provided in Deepwater's confidential response to Division Data Request 1-17, he did not believe that adjusting the portion of the project eligible for cash grant and accelerated tax depreciation would significantly affect the outcome of his analysis.<sup>181</sup> Finally, regarding his IRR analysis, he stated that he "strongly disagree[d] that the IRR analysis treats Deepwater and the benchmark renewable energy projects unequally." He

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<sup>177</sup> *Id.*

<sup>178</sup> *Id.* at 17-18.

<sup>179</sup> *Id.* at 18.

<sup>180</sup> *Id.*

<sup>181</sup> *Id.* at 19.

argued that he used the same financial model and set of assumptions for each of the projects in the analysis.<sup>182</sup>

Addressing the non-price terms of the PPA, Mr. Hahn first noted that he believes that the nature of because of the way the provision allowing an extension of the Commercial Operation Date by five years “gives Deepwater in effect a 25 year contract, if it so chooses.”<sup>183</sup> Conceding that “Deepwater may have every economic incentive to declare the project as commercially operable as soon as possible, given the high PPA rates”, the language of the PPA should be clarified that Deepwater may only extend the Commercially Operation Date only if the actual operation date is delayed.<sup>184</sup> Next, regarding the assignment provision, Mr. Hahn agreed that assignment rights may be necessary to secure financing, but argued that his proposed change would not hinder that because such a legitimate basis would require Grid’s approval.<sup>185</sup> However, he continued to maintain that the current language would allow “Deepwater or any successor [to] assign this PPA to an entity that has no assets and no ability to operate,” allowing Deepwater to “basically exit the business while creating a potential adverse impact on Rhode Island ratepayers.”<sup>186</sup> Finally, with regard to the Favored Nations pricing clause, Mr. Hahn stated that if there is a legally binding prohibition that additional turbines cannot be added, the clause would not be necessary.<sup>187</sup>

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<sup>182</sup> *Id.*

<sup>183</sup> *Id.* at 7.

<sup>184</sup> *Id.* at 8.

<sup>185</sup> *Id.* at 14-15.

<sup>186</sup> *Id.* at 15.

<sup>187</sup> *Id.*

## **XI. Hearings**

### ***A. Public Comment***

Following notice, the Commission conducted hearings on January 5, 2010 and March 26, 2010 in the Town of New Shoreham, on January 5, 2010 in the Town of Narragansett, on January 13, 2010 in the City of Pawtucket, on January 20, 2010 in the City of Warwick, and on March 26, 2010 in the Town of New Shoreham for the express purpose of taking public comment. In addition, the Commission invited public comment at the start of its evidentiary hearings on March 9, 2010. Members of the public also provided written comments throughout the pendency of the docket.

Comment from the various labor union members and leadership favored approval of the PPA on the basis that the Project could assist in job creation. Comments from residents of the Town of New Shoreham were mixed. Comments from unaffiliated residents of the mainland were concerned with the rate impact. The Governor appeared personally before the Commission on March 9, 2010 and testified in favor of the proposal while John Farley, Executive Director of The Energy Council of Rhode Island, whose members include some of the largest employers in Rhode Island and some of the largest consumers of electricity, testified against. Governor Carcieri focused on the potential economic benefits from investment of ratepayer dollars into the Project.<sup>188</sup> Mr. Farley focused on the increased cost to his members who currently provide over 50,000 jobs in Rhode Island. Mr. Farley noted that his members will not experience a rate increase of \$16.44 per year (the projected rate impact for the typical residential customer), but rather between \$100,000 and \$400,000 per year, which he characterized as very substantial

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<sup>188</sup> Tr. 3/9/10, pp. 6-14.



regardless of the overall size of the annual electric bill for those large customers. Mr. Farley suggested that the State could realize more economic benefit by further investing in energy efficiency. He stated that he would support lower cost renewable energy and that a reasonable price for renewable energy would be the current market price plus the price of RECs. Furthermore, Mr. Farley noted that the effect of the legislation is to raise distribution rates by \$20 million, annually, a higher increase than the Commission just approved after a ten-year period that had no distribution rate increases to Grid.<sup>189</sup>

### ***B. Evidentiary Hearings***

Following notice, public evidentiary hearings were conducted on March 9-11, 2010 at the Commission's offices, 89 Jefferson Boulevard, Warwick, Rhode Island. The following appearances were entered:

FOR NATIONAL GRID:	Ronald T. Gerwatowski, Esq. Celia O'Brien, Esq. Jennifer Brooks Hutchinson, Esq.
FOR DEEPWATER WIND:	Joseph A. Keough, Jr., Esq.
FOR NEW SHOREHAM:	Alan Mandl, Esq.  Katherine A. Merolla, Esq. Town Solicitor
FOR EDC:	Alan Shoer, Esq.
FOR CLF:	Jerry Elmer, Esq.
FOR RIBCTC:	Richard Sinapi, Esq.
FOR DIVISION:	Leo J. Wold, Esq. Assistant Attorney General  Jon Hagopian, Esq. Special Assistant Attorney General

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<sup>189</sup> Tr. 3/9/10, pp. 22-49.

FOR COMMISSION: Cynthia G. Wilson-Frias, Esq.  
Senior Legal Counsel

*1. National Grid*

Grid presented Mr. Hamal for cross-examination. He testified that he was not retained to provide analysis of the commercial reasonableness of the PPA, but rather, to provide a comparison of costs for renewable energy projects.<sup>190</sup> He agreed that in 2009 dollars, the average price of the projects was approximately \$170 per MWH and for the three projects in his comparison which had 2013 pricing, the average is less than \$200 per MWH.<sup>191</sup> Further, he agreed that the average price of power in 2009 for the six renewable technologies he identified, with the exception of offshore wind, is approximately \$150 per MWH.<sup>192</sup> He stated that in his opinion, comparing actual dollar amounts in PPAs with no adjustments for locational differences, sizing differences, or water depth provided a more straightforward comparison “because ... given the magnitude of the issues here, to be able to see the plain numbers and knowing that those are the numbers and the prices... would give information that would be above dispute on how to interpret it....”<sup>193</sup> He did expect 2013 prices to be higher than 2009 prices.<sup>194</sup> However, he testified that he did not find any pricing terms with an annual escalator as high as 3.5 percent.<sup>195</sup>

Mr. Hamal agreed that projects in other countries could benefit from different subsidies and tax incentives than those in the United States, but stated that “for 2009 that’s an all-in price that’s paid and I think it is relevant for this Commission to look at

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<sup>190</sup> Tr. 3/9/10, pp. 72-85.

<sup>191</sup> *Id.* at 88-89.

<sup>192</sup> *Id.* at 92.

<sup>193</sup> *Id.* at 94, 124.

<sup>194</sup> *Id.* at 98.

<sup>195</sup> *Id.* at 101.

and say that's comparable, for example, to the 2009 price in this contract.”<sup>196</sup> He did note that long-term contracts are rarely made public, particularly with increasing claims of confidentiality over the last 10 years, providing challenges to those seeking comparables.<sup>197</sup> He testified that in assessing the reasonableness of a contract, one should look at the starting price, the midpoint price, the end price, the levelized price, and all of the revenue streams included in the PPA.<sup>198</sup> He responded that he had found no other contract that contains a starting price higher than 24.4 cents per kWh in 2013 or with an annual escalator of 3.5 percent.<sup>199</sup>

Next, Grid presented Mr. Milhous for cross-examination. Responding to questions regarding the contents of the RFP issued for the Block Island Project, he stated that it was his interpretation that there is a general expectation that the project had to be in the vicinity of Block Island, connected to Block Island, and had to include a transmission line to the mainland.<sup>200</sup> However, he conceded that “the construct...that the project did not necessarily have to be on Block Island as long as there was a cable connecting [Block Island to the mainland], electrically, that works.”<sup>201</sup> He stated that “potentially that would make it possible for a developer of a renewable resource someplace else in Rhode Island on the mainland, for example to respond.”<sup>202</sup>

With regard to the competitiveness of the bid process, Mr. Milhous stated that “it's always better to have multiple bidders” because of the “insight that one would get from analyzing different approaches to the project, and then of paramount importance

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<sup>196</sup> *Id.* at 104-06.

<sup>197</sup> *Id.* at 109-113.

<sup>198</sup> *Id.* at 114.

<sup>199</sup> *Id.* at 115-16.

<sup>200</sup> *Id.* at 143.

<sup>201</sup> *Id.* at 163.

<sup>202</sup> *Id.* at 163.

would be the pricing.”<sup>203</sup> Such comparisons and analyses were not possible in this bid process because there was only one bidder.<sup>204</sup> He testified that if he were a project developer, his decision to bid might be adversely impacted by the pre-existing relationship between Deepwater Wind and the State of Rhode Island through the JDA, particularly where the JDA requires the State and its officials to object to other proposals in the same area as the Deepwater proposal.<sup>205</sup> He was unsure to what extent the extremely short timeframe driven by the statute affected the competitiveness of the bid process.<sup>206</sup>

He stated that Grid was comfortable signing the agreement reached on December 9, 2009 because there was further price reduction on a fixed price agreement which brought the cumulative above-market costs below \$400 million and also included the addition of an “over-production credit”.<sup>207</sup> He clarified that Grid did not decide the \$400 million “was an acceptable number” but rather, “the pricing had gotten to the point where there was an improvement in the total price of the project in terms of the above-market costs over all the pricing [Grid] had seen previously.”<sup>208</sup> Furthermore, Mr. Milhous stated that based on preliminary pro forma data provided by Deepwater, Grid believed that they had reached the target internal rate of return Deepwater was seeking and could not expect more movement.<sup>209</sup> He reiterated that the fixed pricing was important to Grid

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<sup>203</sup> *Id.* at 153.

<sup>204</sup> *Id.*

<sup>205</sup> *Id.* at 156-57, 205. The JDA states, in part: The State shall “object in any appropriate state or federal forum to any offshore wind power project or any electric power transmission facility that would interfere with the Project...[and to] use all reasonable efforts within its lawful authority...(y) to cause CRMC not to permit any use of those submerged lands that interfere with the Project.” JDA, Part IV, pp. 8-9.

<sup>206</sup> Tr. 3/9/10 at 157, 190.

<sup>207</sup> *Id.* at 133-34.

<sup>208</sup> *Id.* at 172.

<sup>209</sup> *Id.* at 135, 153-54, 172-74.

to avoid unacceptable risks to ratepayers.<sup>210</sup> He also disagreed that this contract could be a 25 year PPA because as a practical matter, it would not be in Deepwater's interest, particularly where there are only 20 annual price escalators allowed under the terms of the PPA. He stated that the pricing of the test mode is fairly standard to all new project PPAs.<sup>211</sup>

Addressing the pricing in the PPA, Mr. Milhous could not directly quantify benefits of a \$390 million above-market PPA to Narragansett Electric ratepayers. Rather, he stated that "if it's determined that there are benefits that make it worthwhile to go forward with this project, are really benefits that would accrue to the State of Rhode Island...."<sup>212</sup> He stated that given the size of this Project, there would probably be very little impact on price stability, but Mr. Milhous stated that as Grid had previously noted, "that [price stability] was clearly not a primary driver for this PPA."<sup>213</sup> Finally, Mr. Milhous stated "we've never characterized the present pricing as being necessarily commercially reasonable. It simply represents the best price that we felt we could achieve for a very unique project for a particular purpose."<sup>214</sup>

Finally, Grid presented Mr. Glenning for cross-examination.<sup>215</sup> Mr. Tufts explained that his \$35 million to \$50 million cost projection of the cable between Block Island and the mainland was based on a recently completed undersea cable between Nantucket and the mainland. He indicated that the Nantucket II cable is approximately

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<sup>210</sup> *Id.* at 149.

<sup>211</sup> *Id.* at 204.

<sup>212</sup> *Id.* at 214. The pricing of the PPA does not include the cost of the transmission cable between Block Island and the mainland. Mr. Milhous agreed that the total cost to Narragansett Electric's ratepayers cannot be known until the cable costs are available. *Id.* at 198.

<sup>213</sup> *Id.* at 179-80.

<sup>214</sup> *Id.* at 181-82.

<sup>215</sup> By agreement of the parties, Grid was allowed to submit the Pre-Filed Testimony of Mr. Tufts as a full exhibit without his appearance at the hearing as there was no cross-examination for Mr. Tufts regarding his calculations of the revenue requirement and related rate impact. Tr. 3/10/10 at 243-44.

the same distance and size of the proposed Block Island cable. He took the final costs from the 2006 project and escalated them by 25 percent to account for contingencies such as increased component costs, unknown property acquisition costs, and potential regulatory-related costs, such as where landfall can occur.<sup>216</sup> He conceded that transmission projects can face significant cost risks, but maintained that “the scope is defined to the point that the cost estimate differences we’re dealing with are reasonable to assume they’re going to be in that plus or minus 25 percent range.”<sup>217</sup> He testified that his estimate is “closer to the engineering estimate” than a study grade estimate.<sup>218</sup>

Mr. Glenning testified that he would not provide the Commission with an “artificial timeframe on” when the Transmission Cable Purchase Agreement would be finalized. He stated that Grid and Deepwater are still working out the technical aspects of that project and cannot finalize the Transmission Cable Purchase Agreement until Grid is fully comfortable with the technical aspects of the cable and the system.<sup>219</sup> He noted that the current expected date for filing the system impact study with ISO New England is June 2010.<sup>220</sup> With regard to the construction of the cable, Mr. Glenning testified that Deepwater is depending on an aggressive schedule of “running permitting and design parallel,” a schedule that involves more risks of delay than the schedule Grid typically follows.<sup>221</sup>

Mr. Glenning noted that the cable between Block Island and the mainland would be bidirectional, able to provide power from the project to the mainland and from the

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<sup>216</sup> Tr. 3/11/10 at 100, 102, 104.

<sup>217</sup> *Id.* at 107, 109.

<sup>218</sup> *Id.* at 123.

<sup>219</sup> *Id.* at 119-20.

<sup>220</sup> *Id.* at 111.

<sup>221</sup> *Id.* at 98-99, 110.

mainland to Block Island. He testified that “if we were to build a cable to Block Island only to serve the Block Island load, the cable costs would be substantially less.”<sup>222</sup> He noted that it would be possible to construct such a cable along a shorter route and interconnect to Charlestown.<sup>223</sup> Finally, he stated that the cable is being designed based on the assumption that BIPCo is going to interconnect with the transmission line.<sup>224</sup>

## 2. *Deepwater Wind*

Deepwater presented Mr. Moore for cross-examination. On further direct, Mr. Moore reiterated much of his supplemental rebuttal testimony in response to Mr. Hahn’s direct.<sup>225</sup> He stated that “we’re very conscious of the fact that it’s a very high-priced PPA” and that “the only reason for the Commission to approve this PPA is as a stepping stone to the larger project as a means of getting this industry kick started in Rhode Island.”<sup>226</sup> He asserted that the purpose of the Project is to get something in the water that permitting agencies and financial markets can understand and accept.<sup>227</sup> The Project is designed as a first step to “overcome the impression that currently is afoot that the Northeastern states are not a favorable place to undertake this kind of development given what’s happened in Massachusetts.”<sup>228</sup> Mr. Moore noted that this is consistent with the approach his company took when he was involved in developing land based wind projects in New York before 2001.<sup>229</sup> However, Mr. Moore testified that the utility scale wind farm could move forward without the Block Island Project preceding it.<sup>230</sup>

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<sup>222</sup> *Id.* at 142-43.

<sup>223</sup> *Id.* at 144.

<sup>224</sup> *Id.*

<sup>225</sup> Tr. 3/10/10 at 24-31.

<sup>226</sup> *Id.* at 7-8.

<sup>227</sup> *Id.* at 10, 128.

<sup>228</sup> *Id.* at 41.

<sup>229</sup> *Id.* at 96-97.

<sup>230</sup> *Id.* at 126.

He indicated that if the 3.5 percent annual escalator were not included in the PPA, the pricing in the early years would be higher, and that the current provision diverts risk from ratepayers onto Deepwater.<sup>231</sup> In fact, Mr. Moore testified that “what we’ve done is dropped the price where I’m not even confident, as CEO, that we can close the financing on this basis” because of concerns that the Project will not meet minimum debt coverage ratios.<sup>232</sup> However, he expressed confidence in obtaining financing if Deepwater’s application for the federal loan guaranty is approved, stating, “I don’t know where we’d end up without it.”<sup>233</sup>

Mr. Moore stated that adjusting for what Deepwater believed were errors in Mr. Hahn’s IRR analysis, Mr. Moore testified that the rates of return drop to 12 to 14 percent without a federal loan guaranty and are in the range of 15 to 18 percent with it.<sup>234</sup> He stated that investors would expect a levered return in the 20 percent range given the risk associated with the Project.<sup>235</sup> Deepwater has applied for financing from the Federal Financing Bank through the U.S. Department of Energy, which, if approved, would be in the form of longer term debt at a lower interest rate than would be available through private financing on conventional terms.<sup>236</sup> Such financing would allow Deepwater to use more leverage, perhaps as much as an 80/20 debt-to-equity ratio.<sup>237</sup>

Addressing specific provisions of the PPA, Mr. Moore agreed that Deepwater has the right to terminate the contract under several eventualities, the most important being the possibility that the permitting process were to change and substantially delay the

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<sup>231</sup> *Id.* at 15-16.

<sup>232</sup> *Id.* at 23.

<sup>233</sup> *Id.* at 128.

<sup>234</sup> *Id.* at 185.

<sup>235</sup> *Id.* at 32.

<sup>236</sup> *Id.* at 51.

<sup>237</sup> *Id.* at 69.



Project beyond the deadline for the investment tax credit.<sup>238</sup> However, even if Deepwater did not exercise its right to terminate the contract, Mr. Moore conceded that given the level of competition between the states to gain “first mover advantage”, such an advantage would be diminished in the event of a delay.<sup>239</sup> Discussing other risks and noting that this is the first use of “mesoscale” mapping of wind data in the offshore environment, Mr. Moore indicated that if actual production capacity is lower than expected, it would affect the Project’s rate of return, but noted that this is the type of risk that is typical of all wind project developments.<sup>240</sup> However, if the Army Corps of Engineers does not make a finding of no significant impact and requires a full Environmental Impact Statement (“EIS”) which would add another 36 months of study to the Project timeline, the 2012 deadline would be missed. However, Mr. Moore believed that an EIS would not be required in this case.<sup>241</sup>

Discussing construction, Mr. Moore stated that the companies that fabricate the foundations would be different from the installers. He indicated that the jackets would most likely come from the Gulf of Mexico area assembled in two pieces with local labor used to weld the pieces together. The vessels would also most likely come from the Gulf of Mexico with their own Captain and management. However, the installation would most likely be supplemented by local labor.<sup>242</sup> He stated that “I think what’s going to happen here, and this is part of our negotiations with our turbine suppliers, we’re going to make a requirement that our turbine suppliers agree to consider locating to Rhode Island

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<sup>238</sup> *Id.* at 56-57, 83-84, 121.

<sup>239</sup> *Id.* at 87, 89.

<sup>240</sup> *Id.* at 108-09.

<sup>241</sup> *Id.* at 120-21.

<sup>242</sup> *Id.* at 63-65, 81, 165-66.

in the event we're able to successfully negotiate a PPA for a larger project."<sup>243</sup> However, with regard to the technical aspects, Mr. Moore indicated that Deepwater has not determined the number of turbines it will require and further, is considering a different type of foundation than the jacket foundations discussed throughout the case.<sup>244</sup>

Addressing decommissioning costs, Mr. Moore anticipated as part of its permit requirement, Deepwater would be required to set aside funds to dismantle the wind farm. He stated that Deepwater would set up an account with a trustee and fund it over five years as an addition to the total capital budget. He indicated that the account could be funded at closing but that he preferred the five year approach. Ultimately, however, he stated that it would be determined by the permitting agencies.<sup>245</sup>

With regard to other items, Mr. Moore opined that the offshore wind projects will be more beneficial to the region than high voltage transmission lines built from the Midwest to the Northeast because he believed that the RECs offered from the Midwest would be more expensive than the costs associated with offshore wind farms. In addition, he believed that the transmission lines would import more "brown" power than "green." Furthermore, law changes would be required to allow Obligated Entities to utilize Midwest RECs to meet their annual RES requirements.<sup>246</sup> Mr. Moore further testified that the Block Island Project would not be significant enough to invoke "imbalance penalties that can arise as the penetration of wind starts to reach a much

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<sup>243</sup> *Id.* at 95-96.

<sup>244</sup> *Id.* at 81, 165.

<sup>245</sup> *Id.* at 76-78.

<sup>246</sup> *Id.* at 102-03.

higher level,” i.e., more than 20 percent intermittent generation introduced into the electric grid.<sup>247</sup>

Addressing technical feasibility, Mr. Moore testified that there are eight offshore wind generators that have been built using the jacket technology proposed by Deepwater.<sup>248</sup> One of these is in Germany, the Alpha Ventus project which includes six jacket foundations and the other is off the coast of Scotland, called Beatrice Field, having two 5 MW turbines. He indicated that the Alpha Ventus project is a demonstration project, heavily subsidized by the German government and therefore, he did not believe the price points would provide a relevant comparison to the proposed Project.<sup>249</sup>

Next, Deepwater presented Mr. Nickerson for cross-examination. He noted that in response to a Commission data request, using the lower discount rate approved in Docket No. 3065, the range of net cost to ratepayers increased from between \$99 million and \$124 million to between \$114 million and \$152 million.<sup>250</sup> While he stated that this PPA would provide price stability for the power sold under this contract, he conceded that he does not project the power contract price to be lower than the market price over the term of the PPA.<sup>251</sup> Discussing the use of comparables, Mr. Nickerson stated that one should make adjustments for economies of scale, the maturity of the industry, supply chain availability or gaps and the depth of the water.<sup>252</sup> He stated that he was unable to completely quantify the effect of scale, experience, and supply chain factors, “but came to the conclusion that the installed cost of this project was reasonable.”<sup>253</sup> He stated that

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<sup>247</sup> *Id.* at 175.

<sup>248</sup> *Id.* at 138.

<sup>249</sup> *Id.* at 138-40.

<sup>250</sup> *Id.* at 208.

<sup>251</sup> *Id.* at 216-17.

<sup>252</sup> *Id.* at 237-38.

<sup>253</sup> *Id.* at 239.

it is a commercially reasonable contract because it represents an expensive project, but does not have excessive returns.<sup>254</sup>

Specifically discussing why he believed the Bluewater Wind PPA with Delmarva is not a good comparable, Mr. Nickerson noted that Bluewater is allowed to receive an additional revenue stream for RECs outside of the PPA, allowing it to artificially reduce the price in the PPA. Through legislative action, Delmarva is allowed to record three and a half RECs for every one it purchases from Bluewater Wind. In other words, if Delmarva purchases 57 RECs from the 200 MW project, it is allowed to claim 200 RECs for purposes of its compliance with state renewable energy standards. Bluewater Wind is then allowed to sell the other 143 RECs into the market.<sup>255</sup>

### 3. *Town of New Shoreham*

The Town of New Shoreham presented Mr. La Capra for cross-examination. On direct, he stated that BIPCo would have to undertake new investment in its distribution system to connect to the transmission line.<sup>256</sup> He stated that he had not been engaged to review the PPA for commercial reasonableness, but did agree that he had negotiated and reviewed long term contracts with lengths up to twenty years. He stated that he had never seen price escalators in contracts that were not tied to standard indices like fuel costs, employment indices or inflation.<sup>257</sup> He testified that the Town's primary interest in the Project is the transmission line and that "the PPA as currently structured, would not have any direct effect on the reliability of the Town of New Shoreham. If the project is connected to New Shoreham and power is purchased from the mainland, I suspect there

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<sup>254</sup> *Id.*

<sup>255</sup> *Id.* at 235.

<sup>256</sup> *Id.* at 75-76.

<sup>257</sup> *Id.* at 81-82.

could be some improvement, but I would be a little bit speculative.”<sup>258</sup> He clarified the Town of New Shoreham’s Position to be that it was not seeking to put obstacles in the way of the Commission’s review of the Project.<sup>259</sup>

#### 4. EDC

EDC presented Mr. Hashway for cross-examination. He conceded that “any cost associated is difficult for companies to manage” but that “we” need to balance the short-term costs with the opportunity to build long-term benefits.<sup>260</sup> He had no studies that indicate how long the payback period of such an investment would be to the State of Rhode Island.<sup>261</sup> He agreed that “an increase in distribution rates, regardless of its purpose, leads to increased costs for businesses.”<sup>262</sup> He indicated that EDC has conducted no economic analysis of the Project, either positive or negative, on existing Rhode Island businesses, stating that “we’re not looking at this question as narrowly as you asked it.”<sup>263</sup> However, he referred to a study which examined the economic benefits of energy efficiency. However, this study does not compare the benefits of investment in energy efficiency to the investment in the Project.<sup>264</sup>

Mr. Hashway paraphrased EDC’s mission statement as “helping this state create jobs and increase tax revenue for the benefit of the citizens of the State of Rhode Island.” However, in looking at this Project, he stated that EDC did not review any potential tax benefits to the state. Additionally, EDC did not look at whether there would be any short

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<sup>258</sup> *Id.* at 88.

<sup>259</sup> *Id.* at 92.

<sup>260</sup> *Id.* at 12.

<sup>261</sup> *Id.* at 13.

<sup>262</sup> *Id.* at 25.

<sup>263</sup> *Id.* at 22-23.

<sup>264</sup> *Id.* at 27-29.

term job loss as a result of the increase electric rates from this Project.<sup>265</sup> Further, he believed that the JDA contained no legal consequences to Deepwater if Deepwater does not contract with Rhode Island companies to participate in the construction of the wind farm.<sup>266</sup> According to Mr. Hashway, EDC did not consider the impact on municipal budgets or on the State budget from the increase in electric costs associated with this Project.<sup>267</sup> Mr. Hashway stated that EDC decides whether or not to conduct studies and analysis on a case by case basis to determine whether or not to support a project. However, in this case, he reminded the Commission that this is the Governor's policy and the General Assembly's policy and it is EDC's duty to execute the policy even absent the studies.<sup>268</sup> Finally, he stated that EDC would not support this Project if the large project did not exist.<sup>269</sup>

#### 5. *RIBCTC*

RIBCTC presented Mr. Sabitoni for cross-examination. In response to a question from the bench, he indicated that he believed there was support from the State's legislators.<sup>270</sup>

#### 6. *Division*

The Division presented Mr. Hahn for cross-examination. He testified that he was not aware of any time when a power contract was awarded with a \$700 million face value following the issuance of an RFP for which there was only one bidder.<sup>271</sup> He noted that while he is not familiar with the State of Rhode Island's procurement laws, the

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<sup>265</sup> *Id.* at 29-30.

<sup>266</sup> *Id.* at 18.

<sup>267</sup> *Id.* at 31.

<sup>268</sup> *Id.* at 32-33.

<sup>269</sup> *Id.* at 33.

<sup>270</sup> *Id.* at 65.

<sup>271</sup> Tr. 3/12/10 at 15.

Commonwealth of Massachusetts requires all public projects or procurements \$9,000 to get at least three bids.<sup>272</sup> He stated that in the absence of competitive bidding, “you need to find some other way [to analyze the bid], and I’ve suggested an internal rate of return analysis, however, I think these comparisons have value. They may not be perfect, but they are the best job that I could do in finding benchmark projects.”<sup>273</sup> In comparing the PPA to generic and specific projects, Mr. Hahn stated that he performed all of his analysis based on the same principles. Noting that he did not get down to the level of granularity for his comparables to take into account different revenue streams not included in a PPA which may affect profitability, he agreed that the levelized prices for those projects are actual PPA prices and the other revenue streams are irrelevant to the comparisons provided in his exhibit.<sup>274</sup> Noting that he had no preconception of valid pricing for the Project, he reiterated that his “concern was where there was no competitive validation, I think you needed to look at some other measures, and I’ve suggested those, suggested that possibly a lower price may be justified.”<sup>275</sup> He affirmed that based on his models, the debt coverage ratios would be adequate at the lower price.<sup>276</sup>

Explaining why he disagreed with Mr. Nickerson’s comparison of only the capital cost of projects does not tell the whole story nor does it translate to a PPA price, Mr. Hahn stated that:

the PPA price which is paid out over the 20 years of the contract has to not only produce a return on equity and a return on capital, but it has to pay for any ongoing O&M costs, so I believe that in assessing the reasonableness of a PPA

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<sup>272</sup> *Id.* at 14.

<sup>273</sup> *Id.* at 43.

<sup>274</sup> *Id.* at 39-40.

<sup>275</sup> *Id.* at 57.

<sup>276</sup> *Id.* at 23.

price, you need to look at all of the cost components that that PPA price is intended to cover. So that's why I say if you add the O&M costs, you'll get a complete picture of how well the PPA price might stack up.<sup>277</sup>

Rationalizing his use of lower O&M costs for purposes of analyzing the PPA than those used by Deepwater, he indicated that his O&M costs were not outrageous because the reports Deepwater's witness relied upon assumed even lower O&M costs than Mr. Hahn's.<sup>278</sup>

Addressing other criticisms of his IRR analysis, Mr. Hahn stated that the "largest single benefit from a project of this type" is "either the investment tax credit or what will likely be a cash grant for this project" which provides significant cash flow up front.<sup>279</sup> This has a large impact on the IRR. He also noted that the treatment of accelerated depreciation can affect the IRR, but to a much lesser extent. However, he stated that "it's very common to assume those benefits in any IRR analysis."<sup>280</sup>

He stated that the internal rate of return is important to assure the project developer is charging a fair price. If the internal rate of return is higher than one might expect, it leads to the conclusion that perhaps the lower price could still allow the project to be built.<sup>281</sup> In specific reference to the subject Project, Mr. Hahn believed that it is a real possibility that this Project could be built at a lower price. In response to whether this price is above that which you would expect to see in such a contract, he said that "based on my analysis, it appears that that's the case."<sup>282</sup> He concluded, however, that it

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<sup>277</sup> *Id.* at 19.

<sup>278</sup> *Id.* at 54.

<sup>279</sup> *Id.* at 45-46.

<sup>280</sup> *Id.* at 46.

<sup>281</sup> *Id.* at 16-17.

<sup>282</sup> *Id.* at 17.



was up to the Commission to determine whether the potential economic benefits to the State are worth the high price.<sup>283</sup>

## **XII. Briefs**

On March 21, 2010, Conservation Law Foundation filed its Brief. On March 22, 2010, National Grid, Deepwater Wind, the Town of New Shoreham and the Division each filed their respective Briefs.

### *A. National Grid*

Grid concluded in its Brief that the Commission should approve the PPA because it would advance the policy intent of the Act to develop offshore wind resources.<sup>284</sup> Grid maintained that the Act was designed with the inevitable result that the Project would be more expensive than other alternatives. Grid further stated that:

The Company did not come to agreement because the price of the power would save energy costs for customers. Nor did the Company do so because it was the lowest cost renewable generation project that could be found. Rather, National Grid came to agreement after taking into consideration the legislative policy and purpose surrounding the project.<sup>285</sup>

Grid noted that the Project will not result in a material environmental impact or significant reduction of a dependence on fossil fuel.<sup>286</sup>

Grid asserted that the PPA is commercially reasonable if the Commission takes into account the small size of the Project because otherwise, “the price, on its own, may not represent what an experienced power market analyst would expect to see generally with other types of newly developed renewable projects...”<sup>287</sup> Because of the size

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<sup>283</sup> *Id.* at 48-49.

<sup>284</sup> Grid Brief, p. 9.

<sup>285</sup> *Id.* at 2.

<sup>286</sup> *Id.*

<sup>287</sup> *Id.* at 4.

limitation, Grid requested that the Commission approve the PPA but include express caveats that such approval not be used as a basis for the review of future projects.<sup>288</sup>

Grid defended its RFP and the related process as being appropriate in compliance with the Act. Grid did not address the legal interpretation questions of the Act raised by the Division and Commission regarding the RFP's requirement that the project be directly interconnected to Block Island with an additional transmission line between Block Island and the mainland. Rather, Grid argued that "it was improbable that any other eligible renewable energy resource would satisfy the statutory requirement to enhance the electric reliability of the Town of New Shoreham."<sup>289</sup> Grid also points to the fact that the State had already selected Deepwater to construct a small offshore wind farm off of Block Island and clearly meant for the Act to apply to Deepwater. Finally, Grid argued that because the General Assembly amended the Act in October 2009 to allow Deepwater to have eight turbines was "an endorsement of the process utilized by National Grid."<sup>290</sup> Grid concluded that the Commission should therefore not be concerned with the absence of multiple bidders.<sup>291</sup>

Grid argued that the legislation specifically allows the Commission to approve the PPA subject to approval of a transmission line. Grid states that just because the Project is legally required to include a transmission line between Block Island and the mainland, that is a separate provision of the Act and can be ruled on separately from the PPA. Grid attempted to allay cost concerns raised by the Commission on the basis that the

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<sup>288</sup> *Id.* at 6.

<sup>289</sup> *Id.* at 6-7.

<sup>290</sup> *Id.* at 7.

<sup>291</sup> *Id.*

Commission will know the costs of the overall Project, including the transmission cable by the time it rules on the transmission cable.<sup>292</sup>

*B. Deepwater Wind*

In its Brief, Deepwater stated that in accordance with the Act, “this is not a solicitation for the lowest-cost energy.”<sup>293</sup> Rather, it is a solicitation designed to forward the development of a renewable energy in Rhode Island.<sup>294</sup> Deepwater maintained that this is why the Act set forth the question for the Commission as whether or not the PPA is commercially reasonable, not whether the PPA is in the best interest of ratepayers, the standard review by the Commission in rate matters.<sup>295</sup> Furthermore, Deepwater argued, because the Act set forth several specific requirements for the Project, the Commission should apply the commercially reasonable standard considering those parameters. Specifically, because of the size restrictions, that the Project enhance the reliability and environmental quality of Block Island, and the requirement that there be a transmission cable to Block Island, Deepwater maintained that the Project is commercially reasonable.<sup>296</sup> According to Deepwater, “the relevant issue before the Commission is whether the PPA is commercially reasonable for a project that was legislatively mandated to satisfy a number of very specific project parameters.”<sup>297</sup>

Deepwater offered that the Project satisfies each element of the Act as it relates to the Town of New Shoreham Project.<sup>298</sup> Deepwater stated that the anticipated date of

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<sup>292</sup> *Id.* at 8-9.

<sup>293</sup> Deepwater Brief, p. 1.

<sup>294</sup> *Id.*

<sup>295</sup> *Id.*

<sup>296</sup> *Id.* at 6, 9.

<sup>297</sup> *Id.* at 6.

<sup>298</sup> *Id.* at 6, 31-32.

commercial operation is reasonable and was uncontested.<sup>299</sup> Addressing the pricing, Deepwater argued that even under Mr. Hahn’s analysis, because the Project costs are lower than solar projects that he reviewed, the pricing is reasonable.<sup>300</sup> Deepwater stated, “the Long-Term Contracting Act does not mandate that the project have the lowest cost of all possible renewable energy projects. It simply mandates that the pricing of the [Block Island Wind Farm] be reasonably consistent with other projects.”<sup>301</sup>

Deepwater argued that since the PPA is the product of negotiations with Grid, during which Deepwater provided Grid with data that allowed Grid to determine, to some degree, the target IRR, that the Commission can conclude that Grid had achieved the lowest price through negotiations and thus, the PPA is commercially reasonable.<sup>302</sup> Deepwater highlighted the fact that Mr. Moore testified he did not know if he could arrange financing for the Project as support for the commercial reasonableness of the Project.<sup>303</sup> Additionally, Deepwater reiterated all of the reasons it believed its IRR falls within the range of reasonable returns as cited by the Division’s witness.<sup>304</sup> It also reiterated all of the reasons it believed Mr. Hahn’s comparables were not appropriate.<sup>305</sup> Finally, with regard to pricing and other direct economic benefits to the State, Deepwater relied on Mr. Nickerson’s testimony regarding the calculation of the value of the products and benefits that would be delivered under the PPA and suggested that current market price projections may be too low.<sup>306</sup>

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<sup>299</sup> *Id.* at 31.

<sup>300</sup> *Id.* at 22, 25.

<sup>301</sup> *Id.* at 21-22.

<sup>302</sup> *Id.* at 19-20.

<sup>303</sup> *Id.* at 20.

<sup>304</sup> *Id.* at 16-18.

<sup>305</sup> *Id.* at 22-25.

<sup>306</sup> *Id.* at 32-33.

Addressing specific contract terms that were in dispute, Deepwater reiterated that assignment of the contract without Grid's consent could only occur in the context of a financing matter or permit an assignment to an affiliate of Deepwater for corporate reorganization purposes. According to Deepwater, "assignment of the contract within the Deepwater Wind group of companies would not result in any change of control..."<sup>307</sup>

According to Deepwater, the Commission can approve the PPA in the absence of a transmission cable agreement between Block Island and the mainland because the transmission cable is contained in a separate subsection of the Act.<sup>308</sup> Deepwater asserted that its proposal to Grid included a transmission cable and that the PPA anticipates a transmission cable. Deepwater noted that the PPA includes Transmission Cable Conditions that must be satisfied by December 31, 2010 and set forth "an extensive list of additional factors that need to be satisfied" or the parties may terminate the PPA.<sup>309</sup> Two of these factors are regulatory approvals by the Commission and FERC. Deepwater urged approval of the PPA absent the cable agreement.<sup>310</sup>

### *C. Conservation Law Foundation*

In its Brief, Conservation Law Foundation ("CLF") supported approval of the PPA, arguing that it is commercially reasonable and no party to the docket opposes approval.<sup>311</sup> CLF indicated that the sole issue before the Commission is whether or not the Project is commercially reasonable. CLF stated that "the definition of commercial reasonableness put into the [Act] by the General Assembly is an acknowledgement that, for the present, electricity from renewable sources is more expensive than electricity from

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<sup>307</sup> *Id.* at 30-31.

<sup>308</sup> *Id.* at 36.

<sup>309</sup> *Id.* at 36-38.

<sup>310</sup> *Id.* at 38.

<sup>311</sup> CLF Brief, pp. 1-2, 8.

fossil fuels, but that the other benefits from newly developed renewable energy make it worth the additional cost.”<sup>312</sup> CLF argued that the Act should be interpreted as reading into the definition of “commercially reasonable” the economic and environmental benefits that a project may provide.<sup>313</sup>

In discussing the pricing of the PPA, CLF asks the Commission to take administrative notice of a Report never entered into the record that carbon dioxide emissions should be valued at \$80 per ton for purposes of valuing the PPA. CLF argues that such valuations bring the price differential to only twice what the market value of the products being delivered will be in 2013.<sup>314</sup> Addressing terms of the PPA, CLF indicates that because there is more risk on the developer in the pricing structure than on ratepayers, the escalation provision is reasonable.<sup>315</sup> CLF also discusses what it views as all of the other benefits of the PPA that justify the price and which CLF believes should be taken into account when assessing whether the PPA is commercially reasonable.<sup>316</sup> However, CLF argues that the Commission has a duty to ignore anything related to potential environmental problems or aesthetics because those issues are more appropriately left to other agencies.<sup>317</sup>

#### *D. Town of New Shoreham*

In its Brief, the Town of New Shoreham does not address any issue related to the commercial reasonableness of the PPA, but instead urges that the Commission hold off considering how to allocate costs of the PPA or transmission line in this case, a position

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<sup>312</sup> *Id.* at 7.

<sup>313</sup> *Id.* at 9.

<sup>314</sup> *Id.* at 9-10.

<sup>315</sup> *Id.* at 15-16.

<sup>316</sup> *Id.* at 11-14, 16.

<sup>317</sup> *Id.* at 17-18.

not inconsistent with any of the arguments raised by the other parties on the case. The Town of New Shoreham also expresses a concern that it may not have adequate notice of future proceedings to address cost allocations.<sup>318</sup>

#### *E. Division*

The Division expressly does not provide the Commission with a recommendation in this matter.<sup>319</sup> However, the Division does provide the Commission with the legal basis upon which it believes the Commission should review the PPA for commercial reasonableness. The Division notes that the Supreme Court has held that in construing a statute, discerning the intent of the General Assembly is of utmost importance and should be done through a plain reading of the language of the statute when possible. However, if and when the language of a statute leads to meaningless or absurd result, the language must be construed to effectively carry out the intent of the statute.<sup>320</sup>

Noting that the Commission is charged with determining whether the PPA is commercially reasonable based on a comparison of pricing and terms to other “transactions involving newly developed renewable energy resources” which are defined as those which “have neither begun operation, nor have the developers of the units implemented investment or lending agreements necessary to finance the construction of the unit...”, the Division stated that none of the witnesses in this matter were able to identify even one project which satisfies this criteria.<sup>321</sup> As a result, the Division concluded, “the record overwhelmingly reflects that a comparison of the PPA price to the prices of benchmark projects fitting squarely within the statutory criteria is not

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<sup>318</sup> Town of New Shoreham Brief, pp. 1-6.

<sup>319</sup> Division Brief, p. 2.

<sup>320</sup> *Id.* at 4-5, 7 (citations omitted).

<sup>321</sup> *Id.* at 2-3, 6 (quoting R.I. Gen. Laws §§ 39-26.1-2(1) & (6)).

possible.”<sup>322</sup> Thus, the Division argued that the relevant sections of the Act require the Commission to determine the commercial reasonableness of the PPA without any reference to the very benchmarks set forth in the Act. Despite the absence of “perfect” comparables, the Commission must still rule on whether the PPA is commercially reasonable.<sup>323</sup> Therefore, the Division stated that it had set forth two approaches the Commission can utilize in reviewing the PPA for commercial reasonableness: “(i) compare the PPA price to credible, available pricing of renewable energy projects of the type designated in [the RES statute]; and/or (ii) compare the internal rate of return (“IRR”) achieved at the PPA price to those which an ‘experienced power market analyst’ would expect from other comparable renewable energy projects.”<sup>324</sup>

The Division highlighted portions of Mr. Hahn’s conclusions including the fact that the PPA price is higher than all other “comparable renewable energy projects” except for solar, that the IRR of the Project is higher than expected, that paragraph 14.2 of the PPA should be amended, and that the PPA should not set precedent for future contracts. Finally, the Division pointed out that Mr. Hahn also noted that while the price is closer to the highest price than to the lowest price, the Commission may find that the potential economic benefits are worth the high cost.<sup>325</sup>

*F. National Grid’s Reply Letter*

On March 26, 2010, Grid submitted a letter to the Commission stating that while Grid was not submitting a formal Reply Brief, “it is important for National Grid to note that its silence in reply does not necessarily mean that the Company agrees with all of the

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<sup>322</sup> *Id.* at 6.

<sup>323</sup> *Id.* at 6-7.

<sup>324</sup> *Id.* at 7-8.

<sup>325</sup> *Id.* at 8-9.



points or arguments made by all of the parties in the docket.”<sup>326</sup> Grid still indicated support for the PPA, but “does not necessarily agree with all of the arguments relating to the financial analyses and above market cost impact put forth by Deepwater in their Post-Hearing Memorandum.”<sup>327</sup> Additionally, in response to the Division’s argument that the Commission could order modifications to the PPA, Grid maintained that such action would constitute a rejection of the PPA.<sup>328</sup>

### **XIII. Commission Findings**

While this case generated much public and political attention and caused the parties to expend much energy, the decision by the Commission concerning the approval or disapproval of the PPA between Grid and Deepwater is simply based on the law and the weight of the evidence. The relevant law in this case is R.I.G.L. § 39-26.1-et seq., specifically 39-1-26.1-7. This short chapter in Rhode Island General Laws sets forth the numerous requirements that Grid and Deepwater must meet in order for the PPA to be approved by the Commission.

As to some of the criteria, the proposed Project appears to meet the legal requirements. First, the Project is a newly developed renewable energy resource because it uses wind technology to generate electricity and it has neither begun operation nor has the developer obtained financing for its project. Second, there is the likelihood that the Project will, to a very limited extent, enhance the electric reliability of the Town of New Shoreham. The Commission agrees with the witness for the Town that “the PPA as currently structured would not have any direct effect on the reliability of the Town of

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<sup>326</sup> Grid Reply, p. 1.

<sup>327</sup> *Id.*

<sup>328</sup> *Id.*

New Shoreham” and that only “if the project is connected to New Shoreham and power is purchased from the mainland,” would there “be some improvement” in reliability given that generation related outages are relatively small.<sup>329</sup> Third, there is also the likelihood that the Project will enhance the environmental quality of the Town of New Shoreham because there will be environmental improvement to the extent that BIPCo can utilize its existing diesel generators for back-up use only. However, once again the Commission agrees with the witness for the Town that this environmental improvement is based on “an electrical connection to the island” and not as a direct “consequence of the PPA”.<sup>330</sup> Furthermore, this same witness noted that “if BIPCo doesn’t upgrade its distribution system, there will be no power from the project” and thus BIPCo would still have to use the diesel generators to produce power.<sup>331</sup> Fourth, while the PPA for this Project does not include a provision for a transmission cable between the Town of New Shoreham and the mainland of Rhode Island, the Commission notes that the PPA anticipates a transmission cable to run from Block Island to the mainland on the assumption that this Commission will later approve a transmission cable purchase agreement between Deepwater and Grid.<sup>332</sup>

After hearing this evidence on the unique issues facing Block Island, the Commission will initiate an investigation into distribution service quality of BIPCo and into the construction of a transmission line between Block Island and the mainland to serve the Block Island electric load by Grid, a concept advanced by Grid during the earlier part of the docket when the parties had failed to reach agreement given the even

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<sup>329</sup> Tr. 3/11/10 at 88-89.

<sup>330</sup> Tr. 3/11/10 at 75-76.

<sup>331</sup> *Id.*

<sup>4</sup> Grid Exhibit 7 (PPA 12/9/09 at Section 8.5).

higher prices that Deepwater was seeking at that time.<sup>333</sup> The issues related to the reliability, service quality, environmental quality, and high energy costs facing the Town of New Shoreham should be decoupled from future Commission proceedings focused on renewable energy. Although the issues facing Block Island and the development of renewable energy have been linked as a means to further the development of a particular renewable energy project, these issues are very different and will be best and most cost effectively addressed separately.

The fundamental question in this case is whether the PPA between Deepwater and Grid is commercially reasonable, and if so, does this Project provide other direct economic benefits to Rhode Island such as job creation. Based on the evidence, upon which this Commission is legally bound to render all its decisions, the Commission must regrettably, but unanimously, respond in the negative.<sup>334</sup>

Under the pertinent statute, “commercially reasonable” is defined as “terms and pricing that are reasonably consistent with what an experienced power market analyst would expect to see in transactions involving newly developed renewable energy resources.”<sup>335</sup> The Commission finds that, with one condition, the non-price terms of the PPA represent what an experienced power market analyst would expect to see in transactions involving newly developed renewable energy resources. The Commission is deeply concerned with assignment clauses that provide developers with the unfettered

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<sup>333</sup> Grid Exhibit 1 (Grid Filing Letter 10/15/09), p. 1, informing the Commission that the parties could not reach agreement on Deepwater’s proposed 30.7 cents per kWh and noting that “the benefits of the cable connection could be achieved by simply having National Grid construct and own the cable, without any renewable generation component.” *Id.* at 10.

<sup>334</sup> The Commission reached consensus that, as long as the standards set forth in the Commission’s Rules and Regulations Governing Long Term Contracting Standards for Renewable Energy are not applied, the Project most likely had a credible operation date. However, such consensus was not disparities of the analysis of commercially reasonable. There was concern regarding the permitting timelines, which Deepwater assumed would not require a full EIS under the National Environmental Policy Act.

<sup>335</sup> R.I.G.L. § 39-26.1-2(1).

right to assignment without any right of review by the counterparty – in this case, Grid. The Commission concurs with the Division’s witness who testified that it would be more appropriate to include a modification to Deepwater’s right of Assignment to require Grid’s consent, not to be unreasonably withheld prior to the assignment, in order to “prevent an unwarranted transfer of Deepwater’s obligations under this agreement to the detriment of Rhode Island ratepayers.”<sup>336</sup> The Commission finds that the insertion of this term alone would not likely be fatal to the project since Deepwater’s CEO testified that Deepwater would likely go back to the negotiating table to resolve the Commission’s concern on this issue.<sup>337</sup>

As further explained below, however, even if Deepwater and Grid amended the PPA terms to address this issue, it would not overcome the Commission’s determination that the pricing terms of the PPA are not commercially reasonable. Based on the evidence, the Commission finds that the pricing of 24.4 cents per kWh with a 3.5% annual escalator in the PPA is higher than that which an experienced power market analyst would expect to see in transactions involving newly developed renewable energy resources. At the outset, the Commission notes that the definition of “commercially reasonable” does not incorporate an analysis of economic benefits to the State of Rhode Island. While the Commission does need to address economic benefits that will accrue to

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<sup>336</sup> Division Exhibit 1 at 27-28.

<sup>337</sup> Tr. 3/10/10 at 117. The Commission is mindful of the testimony by Mr. Nickerson that Deepwater’s unencumbered ability to assign the PPA to an affiliate or in conjunction with financing was a routine provision in PPAs and would be necessary to allow Deepwater to obtain financing and utilize available tax credits. (Deepwater Exhibit 2 at 15-16). However, Mr. Milhous testified that this particular provision was the product of negotiations with Deepwater and that in the “give and take” of negotiations, it was a “give.”<sup>337</sup> Acknowledging that PPAs for newly developed renewable energy resources is new, he testified that this was the first time that he had seen an assignment clause of this nature, particularly where no financial assurances are required of the assignee. (Tr. 3/9/10 at 211-13). Despite Grid’s adamant protestations during this process that any condition would be tantamount to a rejection of the PPA, the Commission believes that such a condition would presumably be welcomed by Grid given the stated position of Mr. Milhous. (See Tr. 193-95).

the State of Rhode Island from a commercially reasonable contract, it does not address such benefits as part of its determination of whether pricing is “commercially reasonable.” The pricing of the PPA must stand or fall on its own.

Under R.I.G.L. 39-26.1-7, the standard of commercially reasonable sets a somewhat relaxed threshold for a renewable producer to meet because it allows for the price of a newly developed renewable resource to be higher than electric prices coming out of New England wholesale energy markets.<sup>338</sup> If the Commission were strictly to use electric market prices as a benchmark, which are predominantly based on natural gas, all of the expert witnesses, including the witness for Deepwater, agree that the pricing in the PPA will remain above-market for the duration of the 20-year period. Based on projections of forward market prices, National Grid calculated that this PPA would result in ratepayers paying \$390 million more for electricity. The Division’s calculation painted a slightly worse picture, with ratepayers potentially paying \$521 million in above market payments, while Deepwater’s estimates using a NPV analysis estimated lower values of in the range of \$98.7 million to \$152.2 million.<sup>339</sup> Therefore, not one of the witnesses could provide an analysis to show that the PPA pricing might ever potentially fall below the market value of the products over each and every year of the contract term. This scenario is true even if the assumptions reflect CLF’s proposed use of the theoretical \$80 per ton for carbon.<sup>340</sup>

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<sup>338</sup> Although as shown in two ten-year contracts recently approved in neighboring Massachusetts, some wind power generators that either recently began operation or have projects under development can provide pricing that would give a “net credit” to customers “over the term of the contract” when compared to “forecast of wholesale energy market prices, which was based on forward NYMEX prices”. *NSTAR Green*, D.P.U. 07-64 –A at 7,8, 68-71 (2008).

<sup>339</sup> Division Exhibit 1 at 26; Deepwater Exhibit 1 at 3-4; Deepwater Exhibit 8 at 3.

<sup>340</sup> Milhous Direct at 13; Nickerson Direct at 3-4; Hahn Direct at 26; DWW Response to CLF 27, 28, and Tr. 3/10/10 at 217. During the last year of the PPA, the price is 46.9 cents per kWh, approaching almost seven (7) times the current commodity rate embedded in today’s rates.

In construing and applying the statutory definition of commercial reasonableness, the Commission will not adopt such a narrow definition of commercial reasonableness that would restrict the Commission to only comparing the price offered by Deepwater to other projects with electrical generation units that use “exclusively an eligible renewable energy resource,” and that have neither “begun operation, nor have developers of the units implemented investment or lending agreements necessary to finance the construction of the unit.”<sup>341</sup> Such a narrow interpretation would prevent the Commission from being able to make comparisons to pricing of other renewable energy projects, with the exception of possibly Bluewater Wind, which has a price of 13.9 cents per kWh in 2013, but also has separate revenue streams outside of its contract with the utility.<sup>342</sup> Nor will the Commission adopt the interpretation espoused by Deepwater because it is much too narrow as well. The Deepwater interpretation of commercially reasonable would essentially require that the Commission only look at projects or pricing that is identical to the Block Island project in nearly every facet, from its size, its location and even the benefits it would render to Block Island.<sup>343</sup> The Commission agrees with the Division’s witness who also takes issues with Deepwater’s approach to defining commercial reasonableness on such narrow grounds because “if the commercially reasonable standard meant only comparing the terms and pricing of Deepwater to other projects that benefit the Town of New Shoreham, it would become a self referent standard.”<sup>344</sup>

Furthermore, the Commission cannot make its interpretation of commercial reasonableness strictly dependent on project size and other project attributes because, as

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<sup>341</sup> R.I.G.L. § 39-26.1-2(6).

<sup>342</sup> See Division Brief at 6-8.

<sup>343</sup> Deepwater Exhibit 2 at 2, 4.

<sup>344</sup> Division Exhibit 1 at 11.

Deepwater noted, this is the definition that will have to apply to a multitude of projects to be reviewed by the Commission in accordance with Grid's future obligation to enter into long-term contracts for 90 MW of newly developed renewable energy resources over the next four years. Therefore, the Commission needs to apply the definition consistently in reviewing all such contracts, regardless of sizing restrictions, technology, location, or novelty.<sup>345</sup> This is particularly true where Grid is required to enter into contracts for no more than 22.5 MW per year.<sup>346</sup> By definition, every project could arguably be constrained by size, location, and novelty.

Based on the foregoing analysis, the Commission will adopt a two-pronged analysis to evaluate the commercial reasonableness of a particular project. The first prong is to compare the pricing of the contract with other renewable energy projects, generally. The second prong of the analysis is to compare the IRR achieved at the PPA price to those which an experienced power market analyst would expect from other renewable energy projects. As applied to this case, the Commission determines that Deepwater's pricing is not commercially reasonable under either prong of the analysis.

First, to make a comparison to the pricing of other renewable energy projects generally, the Commission relies on the comparison groups used by the Division and Grid, respectively. The Division's witness compared Deepwater's pricing to available pricing of renewable energy projects of the type set forth in the RES statute while Grid's witness compared Deepwater's pricing to European offshore projects, to Ontario, to Bluewater Wind, and onshore wind project averages in the United States. The 2009 prices ranged from \$196/MWH to \$230/MWH in Europe, \$186/MWH in Ontario, with a

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<sup>345</sup> This is true with the exception of 3MW of solar which must be analyzed in a method to be determined by the Commission as there is a requirement that of the 90MW, 3 are from solar projects.

<sup>346</sup> R.I.G.L. § 39-26.1-3(c)(2).

2013 price of \$139/MWH for Bluewater Wind. The pricing of onshore wind power in the United States during the period 2006 through 2008 averaged \$48/MWH.<sup>347</sup> The Commission accepts the testimony provided by the Division's witness and finds that Deepwater's pricing was clearly higher than any technology except PV solar.<sup>348</sup>

In addition, the Commission notes that the principal difficulty in determining whether the PPA's pricing was commercially reasonable was due to the fact that there were no competing bids to compare in light of Deepwater submitting the sole bid in response to Grid's RFP.<sup>349</sup> The Commission believes that this was the result of several factors, including the fact that Deepwater is the State's preferred developer of offshore wind energy,<sup>350</sup> that the timeframes set forth in the RFP were so tight as a result of the Act,<sup>351</sup> and that Grid's RFP was based on an unnecessarily limiting interpretation of the law. Section 3.4 of Grid's RFP requires that:

The generating facility must be interconnected with the facilities of the Block Island Power Company in the Town of New Shoreham, Rhode Island. The interconnection facilities must also be electrically integrated with a new cable system which will connect New Shoreham to the facilities of National Grid on the mainland of Rhode Island.<sup>352</sup>

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<sup>347</sup> Grid Exhibit 9 at 3-6.

<sup>348</sup> Division Exhibit 2 at 10-11.

<sup>349</sup> The Commission notes that such lack of competitiveness seemed to have been a concern to the Division and Grid as well where Mr. Milhous stated that "it's always better to have multiple bidders" because of the "insight that one would get from analyzing different approaches to the project, and then of paramount importance would be the pricing." He agreed that such comparisons and analyses were not possible in this bid process because there was only one bidder. Tr. 3/9/10 at 153.

<sup>350</sup> The JDA states, in part: The State shall "object in any appropriate state or federal forum to any offshore wind power project or any electric power transmission facility that would interfere with the Project...[and to] use all reasonable efforts within its lawful authority...(y) to cause CRMC not to permit any use of those submerged lands that interfere with the Project." JDA, Part IV, pp. 8-9. Mr. Milhous testified that if he were a project developer, his decision to bid might be adversely impacted by the pre-existing relationship between Deepwater Wind and the State of Rhode Island through the JDA, particularly where the JDA requires the State to and its officials to object to other proposals in the same area as the Deepwater proposal. Tr. 3/9/10 at 156-57, 205.

<sup>351</sup> R.I.G.L. § 39-26.1-7(a). Mr. Milhous stated that the timeframe was tightened up to the maximum based on the statutory timeframes, but was unsure whether this affected the competitiveness of the bid process. Tr. 3/9/10 at 157, 190.

<sup>352</sup> Grid Exhibit 1, (October 15, 2009 Filing Letter and Unsigned PPA - Exhibit 2), p. 3.



A review of the relevant section, R.I. Gen. Laws § 39-26.1-7(b) which states in part, “[t]he solicitation shall require that each proposal include provisions for a transmission cable between the Town of New Shoreham and the mainland of the state” seems to indicate that the Project does not need to be interconnected to BIPCo’s facilities as long as the Project “includes a proposal to enhance the electric reliability and environmental quality of the Town of New Shoreham.”<sup>353</sup> When asked at the hearing, Mr. Milhous testified, “the construct...that the project did not necessarily have to be on Block Island as long as there was a cable connecting [Block Island to the mainland], electrically, that works.” He stated that “potentially that would make it possible for a developer of a renewable resource someplace else in Rhode Island on the mainland, for example to respond.”<sup>354</sup> In the future, the Commission would encourage Grid to draft its request for bids in manner that encourages the participation of as many qualified bidders as possible.

In order to address pricing in the absence of competitive bids, the IRR analysis is an important analytical tool because the IRR should be sufficient to attract investors, but not more than is necessary to secure financing. A higher-than-expected IRR would lead to the conclusion that ratepayers are providing more of a subsidy than is necessary to allow the Project to be financed. The Division’s witness testified that a reasonable IRR would be in the range of 12% to 15%, a range far exceeded by this Project, even under his revised calculations. As a result of his analysis, the Division’s witness testified that he believed the Project could be built and financed with 2013 pricing between \$170 per

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<sup>353</sup> R.I.G.L. § 39-26.1-7(a).

<sup>354</sup> Tr. 3/9/10 at 163.

MWH and \$214 per MWH.<sup>355</sup> Based on his analysis, the Division's witness ultimately testified that the pricing is higher than what he, as an experienced power market analyst, would expect to see because of what he finds to be an excessive IRR.<sup>356</sup>

However, the Commission must still resolve a dispute between Deepwater and the Division regarding the IRR calculation. In its Brief, Deepwater noted that "conflicting evidence was provided" in this matter by witnesses for Deepwater and the Division regarding the IRR projections. Deepwater maintained that it had "presented evidence that Mr. Hahn made several fundamental errors" and thus Mr. Hahn's "deeply flawed" calculations "should be given no weight".<sup>357</sup> Mr. Hahn, however, asserted that he did not make errors, but that Deepwater changed its assumptions "only after [he] raised the issue of a potentially excessive rate of return."<sup>358</sup> Mr. Hahn acknowledged that Deepwater's altered assumptions of the application of the benefits of accelerated depreciation and the cash grant would reduce the IRR to a level between 12.0% and 15.2%.<sup>359</sup> However, Mr. Hahn stated that "Deepwater Wind is not required to live by these assumptions."<sup>360</sup> He elaborated that "if the PPA price is determined to be reasonable assuming the cash grant is shared with lenders and Deepwater Wind is able to negotiate debt covenants without

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<sup>355</sup> Division Exhibit 2 at 25.

<sup>356</sup> Tr. 3/12/10 at 17, 48-49.

<sup>357</sup> Deepwater's Brief at 16. In Mr. Moore's supplemental rebuttal and at the hearing, he discussed what he believed were the flaws in Mr. Hahn's IRR analysis. However, Deepwater did not provide the Commission with an IRR calculation other than Mr. Moore's testimony that the IRR would be in the range of high single digits to low teens. Deepwater Exhibit 5, p. 2.

<sup>358</sup> Division's Response to Commission Record Request, p. 2. Even after adjusting the assumptions in his IRR analysis in a conservative manner that favored Deepwater, the calculated IRR still exceeded a level that power market analysts would expect to see for a project of this nature. Moreover, some of the changed assumptions that reflected Deepwater's criticisms still provide no certainty with respect to whether the underlying assumptions, such as the disbursement allocation of cash grants or adherence to a specific capital structure, will ultimately become reality since the weight of the evidence suggests that Deepwater is not, and probably will not be, legally bound to such assumptions. In fact, the evidence demonstrates that Deepwater injected a change of assumptions during the case when confronted with the rather heavy criticism from Division witness Hahn. (Division Response to Commission Record Request).

<sup>359</sup> Division's Response to Commission Record Request, p. 2.

<sup>360</sup> Division's Response to Commission Record Request, p. 2.

such a provision, then the actual IRR will be much higher than expected using Deepwater Wind's assumptions."<sup>361</sup> Furthermore, Mr. Hahn calculated that the revised IRR could be as much as 28.1% if Deepwater wins a federal loan guarantee. He stated that "such loan guarantees would almost certainly result in a lower interest rate and may possibly eliminate any requirement for sharing of the cash grant with lenders and the Debt Service Reserve. Under these assumptions, the IRR could turn out to be higher than estimated by Deepwater Wind."<sup>362</sup>

It is the Commission's role to weigh conflicting evidence in making its findings of fact.<sup>363</sup> Of all the witnesses, the Commission finds Mr. Hahn, the Division's witness, to have the most credibility as an independent power market analyst. Unlike Grid and Deepwater, he has no financial stake in the outcome of the matter. Deepwater indisputably has a great deal at stake, and Grid stands to receive approximately \$25 million in statutorily-authorized "remuneration" payments just for signing the PPA. Moreover, Grid is guaranteed by law to recover all of the costs of the PPA power purchases from ratepayers as a matter of law, and further has the right to collect all of its costs associated with its participation in the instant docket if the PPA was approved.<sup>364</sup>

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<sup>361</sup> *Id.*

<sup>362</sup> Division's Response to Commission Record Request, p. 3.

<sup>363</sup> R.I.G.L. § 39-5-3. The Rhode Island Supreme Court has held that it will not review evidence *de novo* which was presented to the Commission and rejected. In *South County Gas Co. v. Burke*, The Supreme Court stated: "the company in essence asks this court to consider *de novo* the evidence presented before the commission and render a different decision. This we decline to do. While the company argues that the commission "chose to ignore" Sullivan's testimony regarding third-party rental income, the decision and order reveals that his testimony was considered and, for reasons clearly enunciated in its report, rejected. That the commission decided to adopt Fox's recommendations relative to the omission of this rental income from the accounting calculation is a matter within the sound discretion of this administrative body." *South County Gas Co. v. Burke*, 551 A.2d 22, 24 (R.I. 1988).

<sup>364</sup> R.I.G.L. § 39-26.1-7(a) states in relevant part: "Upon approval of the contract, the provisions of § 39-26.1-4 and the provisions of paragraphs (a), (b), (c), (d), and (f) of § 39-26.1-5 shall apply, and all costs incurred in the negotiation, administration, enforcement, and implementation of the agreement shall be recovered annually by the electric distribution company in electric distribution rates."

Although the Commission acknowledges Mr. Moore's testimony on this subject, it was Mr. Hahn who provided the Commission with documented calculations and the rationale to support his conclusions that were entirely based on Deepwater's submissions in response to Division data requests and later, a Commission record request. For example, Mr. Hahn's initial IRR analysis was based on information provided to him by Deepwater on December 31, 2009. He stated that although this information was a spreadsheet rather than an electronic file, he was able to closely duplicate the numbers therein. His second IRR analysis was based on information provided to him by Deepwater on March 17, 2010. Again, he was able to closely replicate Deepwater's numbers and came within 1.5% of Deepwater's stated IRR. Therefore, the Commission finds that Mr. Hahn's first IRR calculations are reasonable and were, indeed, based on Deepwater's initial assumptions while his response to the Commission's Record Request was based on Deepwater's later assumptions.<sup>365</sup> The Commission takes particular note of Mr. Hahn's position that Deepwater is not bound to the updated assumptions and further, that a federal loan guarantee would increase the revised IRR to a level that all parties agreed would exceed that which would be necessary to attract investors.

Furthermore, the Commission notes that while Mr. Milhous testified that based on what was provided to Grid in August 2009 (approximately 4 months prior to the information provided to Mr. Hahn), it was Grid's belief that the PPA pricing brought Deepwater's IRR to slightly below their target level. However, because Mr. Milhous testified that he believed it was less detailed and more preliminary than that which was provided to Mr. Hahn, the Commission will not rely on the testimony in support of

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<sup>365</sup> Division's Response to Commission Record Request.

Deepwater's position.<sup>366</sup> Furthermore, the Commission is skeptical of Mr. Moore's statement that he, as CEO, would sign a PPA that would contain pricing below that which he believes would be sufficient to secure financing. Therefore, the Commission finds that based on Mr. Hahn's calculations, the IRR and resulting pricing is above that which an experienced power market analyst would expect to see in transactions involving newly developed renewable energy resources.

Despite the fact that the Division made no recommendation to the Commission regarding whether or not the PPA was commercially reasonable, the testimony submitted by the Division's witness raised serious concerns about the reasonableness of the pricing terms. The Division's witness noted repeatedly that the pricing in the PPA is higher than all other technologies and projects but for solar. While Division witness Hahn ended his testimony with a suggestion that the Commission could find the above-market price "worth it" when considering the other potential benefits,<sup>367</sup> the only way to find the pricing commercially reasonable in a manner consistent with Mr. Hahn's position is to include other economic benefits in the definition of commercially reasonable, something clearly contrary to the statute.

As for Grid, Mr. Milhous stated: "that the terms and pricing in this PPA by no means represent what an experienced power market analyst would expect to see in transactions involving newly developed renewable projects generally, where the complexities associated with a small-scale demonstration such as this are not present."<sup>368</sup> Furthermore, on cross-examination, Mr. Milhous stated, "*We've never characterized the present pricing as being necessarily commercially reasonable.* It simply represents the

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<sup>366</sup> Tr. 3/9/10 at 135, 172-74.

<sup>367</sup> Division Exhibit 1 at 26; Tr. 3/12/10 at 48-49.

<sup>368</sup> Grid Exhibit 8 at 7.

best price that we felt we could achieve for a very unique project for a particular purpose.”<sup>369</sup> Thus, with the exception of Deepwater, no party that proffered an expert witness was willing to state unequivocally without qualification that the pricing in the PPA was commercially reasonable. The Commission will not substitute the terms “best price one can achieve” for “commercially reasonable” in the law. If the standard the General Assembly and the Governor expected the Commission to apply to the PPA for this particular Project was the “best price Grid can achieve”, it never would have used the term “commercially reasonable” in the law.

While the Commission has found the pricing in the PPA to be commercially unreasonable, several parties and commenters have suggested the Commission should utilize a review of the potential future economic benefits of this Project to approve the contract.<sup>370</sup> However, the Commission finds that nothing in the statutory definition suggests that a commercially unreasonable contract can become commercially reasonable because of economic benefits to the State. Regardless, even if the Commission were to accept such a theory, the record cannot support such a finding that other economic benefits would either render this commercially unreasonable contract reasonable or make the \$390 million above market costs “worth the price.”

Unfortunately, in this case, while there was evidence of the harm to ratepayers and taxpayers from this Project, the only evidence of benefits was based on speculation. Mr. Nickerson, on behalf of Deepwater, suggests that perhaps the direct in-state economic benefits could be approximately \$2.4 million per year with indirect benefits at

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<sup>369</sup> Tr. 3/9/10 at 181-82 (emphasis added). The Commission notes that counsel to Grid restated at public hearings that the PPA simply represents the best price that we felt we could achieve for a very unique project for a particular purpose.

<sup>370</sup> The Commission notes that no party presented any evidence that the PPA would ever provide at or below-market costs during the entire 20-year period.

a similar level or higher.<sup>371</sup> This potential benefit is far outweighed by the above-market costs during the same time period.

First, the Project would increase energy costs for governmental entities. The impact on the State of Rhode Island's aggregate electric costs would be an initial annual increase of \$476,630 while the aggregate impact on Rhode Island's municipalities would initially be \$1,008,803, with a strong likelihood of escalation each year thereafter. Mr. Hashway agreed that the State and its municipalities are facing budget shortfalls. Surprisingly, Mr. Hashway testified that in deciding whether or not to support this PPA, EDC did no analysis of the impact of the increased electric costs on State or municipal budgets.

Second, there is not sufficient evidence to show that this Project will lead to a cost-effective net increase in Rhode Island jobs. Recently, various public officials have used as their mantra to justify this Project that the State is seeking to gain "first mover advantage" and to do so requires investment in off-shore wind.<sup>372</sup> In fact, Mr. Moore, on behalf of Deepwater, testified at the hearing that "the only reason for the Commission to approve this PPA is as a stepping stone to the larger project as a means of getting this industry kick started in Rhode Island."<sup>373</sup> He asserted that the purpose of the Project is to get something in the water that permitting agencies and financial markets can understand

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<sup>371</sup> Deepwater Exhibit 1 at 3-4. Regarding indirect benefits, Mr. Hashway testified that ratepayers would benefit from stable and competitive electricity rates. The Act also includes price stability as a goal. However, Mr. Milhous testified that the size of this Project would be equivalent to 0.1% of Grid's load, an amount unlikely to produce any real price stability to Grid customers. Additionally, the price contained in the PPA is by no means competitive, nor is it ever projected to be. Therefore, one of EDC's rationale for supporting this PPA fail on both counts.

<sup>372</sup> Mr. Hashway has conceded that there are no guarantees this Project would lead to the utility scale and that if EDC were reviewing this Project on its own, EDC probably would not support it. Tr. 3/11/10 at 33.

<sup>373</sup> *Id.* at 7-8.

and accept.<sup>374</sup> The Project is designed as a first step to “overcome the impression that currently is afoot that the Northeastern states are not a favorable place to undertake this kind of development given what’s happened in Massachusetts.”<sup>375</sup>

However, the economic benefits that are presumed to follow from this “first mover advantage” is not based on any Rhode Island-specific studies. In a data response, Deepwater Wind states that “the Block Island Wind Farm is intended to serve as a stepping stone to future economic development and, in and of itself, is likely to have a modest impact on the Rhode Island economy. Deepwater Wind has not commissioned an economic development benefits study specific to Rhode Island....”<sup>376</sup> Furthermore, EDC did not commission any studies to quantify the payback of this investment or the return on the investment. Absent studies by the developer or the State, the Commission cannot quantify the value of this “first mover advantage.”

Furthermore, while the advocates of this project have made representations that this will lead to the creation of many jobs, the evidence presented in this case demonstrates that this is really not a fair characterization. According to Deepwater Wind, this Project could result in 35 to 50 temporary jobs and only 6 permanent ones.<sup>377</sup> Many of the temporary jobs contemplate the use of personnel from the Gulf of Mexico, where components of the turbine structures will originate.<sup>378</sup> Thus, Rhode Island ratepayers would be paying nearly \$390 million more in energy costs over twenty years for no more than 50 temporary jobs and 6 permanent jobs. Admittedly, the Commission is not an

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<sup>374</sup> *Id.* at 10, 128.

<sup>375</sup> *Id.* at 41.

<sup>376</sup> Division Exhibit 6 (Deepwater Response to DIV 1-2).

<sup>377</sup> Division Exhibit 6 (Deepwater Response to DIV 1-1); Commission Exhibit 9 (Deepwater Response to PUC 2-6). The jobs that would be created by the utility-scale project are not included in this figure, nor is that project before this Commission at this time.

<sup>378</sup> Tr. 3/10/10 at 63-65, 81.



economic development agency but this approach, on its face, does not appear to represent cost effective economic development.

Apparently recognizing the likelihood that few jobs will be created by this Project, Deepwater Wind tried to lower expectations by stating “it is important to note that the Block Island Wind Farm is a small scale project and is not intended, in and of itself, to result in significant job creation in Rhode Island”, but instead emphasized that this project “will give Rhode Island first mover advantage in a potentially significant new industry that could attract green businesses at all levels of the supply chain to Rhode Island, such as wind turbine or component manufacturers.”<sup>379</sup> Thus, instead of actual job numbers or commitments we are left with an economic theory based on the old adage “if you build it, [they] will come”.<sup>380</sup> However, Deepwater is a bit contradictory when it comes to stating this Project will lead to the creation of an offshore wind industry in Rhode Island. For instance, Deepwater admitted that it “does not expect suppliers of principal components to the Block Island Wind Farm to establish manufacturing facilities in Rhode Island or to hire from the RI labor force simply to supply the Block Island Wind Farm Project.”<sup>381</sup> Not even in regards to Deepwater’s own Projects in Rhode Island is there any commitment from Deepwater Wind that Rhode Island residents will obtain employment. For example, the JDA does not define “local labor”, does not contain residency requirements for workers, and does not contain a breach provision in the event there is a failure to create a minimum number of jobs.<sup>382</sup>

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<sup>379</sup> Commission Exhibit 9 (Deepwater Response to PUC 2-6).

<sup>380</sup> Tr. 3/10/10 at 33; *Field of Dreams*, (1989).

<sup>381</sup> DWW Response to PUC 5-3; Tr. 3/10/10 at 63-64, 80-81

<sup>382</sup> DWW Response to PUC 5-6, 5-7, 5-8, 5-9, 5-10, 5-11. The Quonset Development Agreement does contain penalties for lack of job creation, but that requirement is in an Option to Lease which shall terminate on June 30, 2010 unless extended. There is no indication that the Option has been exercised. (EDC Exhibit 1 at Attachment D).

Lastly, even assuming such enormous amounts of ratepayer funds were expended on higher energy costs so that a green industry is born in Rhode Island and green jobs are created in Rhode Island, it is unclear whether this will lead to a net increase in jobs for Rhode Island. None of the parties in the case presented any evidence as to what the economic impact would be if electric rates were increased to pay for these above market energy prices. EDC did not perform any studies regarding the impact on current businesses in Rhode Island from these higher energy rates or what job losses would result from these higher electric rates.<sup>383</sup> Rather than analyze the macroeconomic impacts of the Project, the EDC merely responded that its duty is to simply execute the economic development policies of our elected officials. What does not require a study to discern is that Rhode Island businesses will pay higher energy costs because of this Project. For example, the initial increase in energy costs from this project to Rhode Island's five largest businesses will be \$1,122,521, and for Rhode Island's fifteen largest businesses it would be \$2,001,512.<sup>384</sup> It is basic economics to know that the more money a business spends on energy, whether it is renewable or fossil based, and whether it is produced in Rhode Island or elsewhere, the less Rhode Island businesses can spend or invest, and the more likely existing jobs will be lost to pay for these higher costs. Spending large amounts of ratepayer funds on renewable energy development can lead to green jobs at new businesses, but one cannot ignore the fact that higher energy costs could lead to the loss of regular jobs at existing business as well.

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<sup>383</sup> Tr. 3/11/10 at 12-13,22, 30, 31.

<sup>384</sup> Commission Exhibits 7 and 22 (Grid Responses to PUC-DR 5-7, 5-8 and PUC-DR 6-1). Strong public comments were offered by The Energy Council of Rhode Island, which represents the largest manufacturers and employers in the State, that the proposed subsidies under the PPA would, in fact, undermine the financial capability of struggling companies and institutions. (Tr. 3/9/10 at 22-49).

With that said, the Commission's decision in this matter should not and must not be read as a rejection of Deepwater or of the State's desire to invest in off-shore wind technology. All indications in this docket are that a utility scale project could achieve better economies of scale that might result in a PPA with commercially reasonable terms and pricing. Furthermore, the process before the Commission regarding the utility scale project is different in some aspects from the compressed procedures attendant with R.I.G.L. § 39-26.1-7.

The Commission notes that the JDA, Section XI.E.2 states: "The obligations of the Parties with respect to Phase II shall remain in full force and effect even if Phase I is Discontinued pursuant to the provisions of Section VII.B.2 of this JDA." If Phase I is discontinued, Phase II must connect BIPCo to the mainland.<sup>385</sup> Deepwater has indicated that the JDA is in full force and effect. Deepwater has stated that it "has not established specific metrics that would – on a binary basis – dictate whether or not to proceed with the utility scale project. The decision to develop the larger project is a multifaceted analysis."<sup>386</sup> Mr. Moore testified that the utility scale project could proceed without the small project, but did not recommend that course of action, maintaining that the small project is necessary to demonstrate to the financial markets that permitting and regulatory approvals can be won<sup>387</sup> While the Commission has rejected this PPA on the basis of its pricing, it is not simply because the pricing is above-market. It is because of the finding that, for whatever reason, Deepwater and Grid were not able to negotiate a commercially

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<sup>385</sup> JDA, Part I.2 and Part VII.C.2.

<sup>386</sup> PUC Exhibit 12 (Deepwater Response to PUC 5-15).

<sup>387</sup> Mr. Moore explained as follows: "I mean, the kind of things that would dissuade us from further investing in a larger scale project would be some indication that we don't have favorable conditions, political conditions or community conditions in Rhode Island to support this kind of investment and to support, you know, what's been described as above-market pricing. I think those are the bigger concerns that we have looking towards investing in the offshore project." Tr. 3/10/10 at 125-26.

reasonable price over the term of the PPA based on appropriate comparisons and an IRR analysis.

The Commission is keenly aware that offshore wind resources are likely to be more expensive than electricity generated from fossil fuels, but the price premium does not automatically disqualify a project in the future, provided that the pricing is commercially reasonable. In the instant proceeding, however, the pricing was simply not commercially reasonable. The market value against which these prices were compared, which included projections for all environmental attributes, was never going to meet the projected value of the products delivered. Furthermore, this Project resulted in the most expensive pricing of all comparable projects but for solar and resulted in an unnecessarily high IRR. Finally, this Project was unable to demonstrate real economic benefits. The economic benefits from the utility scale project are not before the Commission and cannot be assumed for purposes of evaluating this Project. The Commission is, and must continue to be, an independent body that can apply its expertise and make decisions based upon the law and the weight of the evidence. In this case, the Commission must conclude that the evidence in the record failed to meet the prescribed standards set forth in the law.

Accordingly, it is hereby

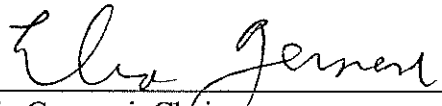
( 19941) ORDERED:

1. The Purchase Power Agreement between The Narragansett Electric Company d/b/a National Grid and Deepwater Wind Block Island, LLC on December 9, 2009, is hereby disapproved.
2. The Commission will open an investigation into distribution service quality of the Block Island Power Company and into the construction of a transmission line between Block Island and the mainland to serve the Block Island electric load.

EFFECTIVE AT WARWICK, RHODE ISLAND PURSUANT TO AN OPEN MEETING ON MARCH 30, 2010. WRITTEN DECISION ISSUED APRIL 2, 2010.

PUBLIC UTILITIES COMMISSION



  
\_\_\_\_\_  
Elia Germani, Chairman

  
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Mary E. Bray, Commissioner

  
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Paul J. Roberti, Commissioner

**NOTICE OF RIGHT OF APPEAL PURSUANT TO R.I.G.L. SECTION 39-5-1, ANY PERSON AGGRIEVED BY A DECISION OR ORDER OF THE COMMISSION MAY, WITHIN SEVEN DAYS (7) DAYS FROM THE DATE OF THE ORDER, PETITION THE SUPREME COURT FOR A WRIT OF CERTIORARI TO REVIEW THE LEGALITY AND REASONABLENESS OF THE DECISION OR ORDER.**