STATE OF RHODE ISLAND PUBLIC UTILITIES COMMISSION
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1-1. On page 3 of Mr. Short's direct testimony, he states that he "represents the owners or developers of wind, biomass, solar and hydro-electric projects," and that he qualifies, manages and sells for "these clients" all of their REC production. In reference to this testimony, please provide the name and address of each of his clients who are owners or developers of wind, biomass, solar and hydro-electric projects for which he qualifies, manages and sells REC production.

Objection to data request 1-1 as all client information is sensitive business data and, further, is not relevant or material and is not reasonably calculated to lead to the discovery of admissible evidence. Subject to, and without waiving these objections, Mr. Short is willing to submit this information to the Commission under seal and with such protective orders as the Commission may reasonably direct.

Prepared by: William P. Short III
July 30, 2010

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1-2. On page 3 of Mr. Short's direct testimony, he states that he represents "load serving entities in Connecticut, Massachusetts, Maine, New Hampshire and Rhode Island" and that he regularly manages and purchases all the REC requirements for "these clients." In reference to this testimony, please provide the name and address of each of his clients who are load serving entities for which he purchases all their REC requirements.

Objection to data request 1-2 as all client information is sensitive business data and, further, is not relevant or material and is not reasonably calculated to lead to the discovery of admissible evidence. Subject to, and without waiving these objections, Mr. Short is willing to submit this information to the Commission under seal and with such protective orders as the Commission may reasonably direct.

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1-3. Please provide all of Mr. Short's testimony or public comments with or on behalf of Industrial Wind Action Group, and describe Mr. Short's affiliation with Industrial Wind Action Group.

Mr. Short has never provided any testimony or made public comments with, or on behalf of, the Industrial Wind Action Group ("IWA"). Mr. Short has no affiliation with the Industrial Wind Action Group. Mr. Short submitted joint public comments to the Federal Regulatory Energy Commission with Ms. Lisa Linowes. Ms. Linowes is the executive director of IWA. Mr. Short and Ms. Linowes submitted the comments as individuals and not on behalf of any client or entity. Mr. Short and Ms. Linowes also met jointly with FERC Chairman Jon Wellinghoff and FERC Commissioner Philip Moeller in June 2009 where they presented their ideas on policy changes to transmission development, renewable energy and using renewable energy resources to meet load. Copies of these documents are attached to the email version of this set of data request responses or will be forwarded therewith.

The three documents are dated June 11, 2009, June 12 2009, and April 10, 2010.

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1-4. On page 17 of his testimony, Mr. Short states that the Block Island Wind Farm Project will only minimally enhance environmental quality as opposed to other renewable energy projects." Regarding this testimony, please state the following:

a. The identity of the other projects referred to in Mr. Short's testimony.
b. The factual basis relied on by Mr. Short that these projects exist.
c. The type of renewable energy in each of these projects.
d. The generating capacity of each of these projects.
e. The cost of each of these projects.
f. The bundled energy price for each of these projects (expressed in price per kilowatt hour) for each year of each project(s) operation.

Objection, there is an unmatched quotation mark in the request, making response difficult. Nonetheless, and without waiving the objection, the Attorney General Attempts to answer as follows:

Mr. Short's testimony on page 17 did not refer to any one renewable energy project or projects but to classes of renewable energy projects, such as biomass, landfill, municipal solid waste and hydro-electric with adequate pondage (i.e., storage). For more details on these types of generation, one should review ISO-NE's 2010 CELT report, a copy of which may be found at http://www.iso-ne.com/trans/celt/report/index.html, and which is furnished in conjunction with the response to NGrid's data request to AG1-1 (*see* item 12 of response).

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1-5. Please produce all of Mr. Short's work papers, which collectively support his opinions, calculations and the conclusions reached in his testimony.

Please see the items furnished in response to National Grid's data requests 1-1 and 1-2.

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1-6. Please provide copies of all testimonies referred to on page 4, lines 81 to 89 of Mr. Short's testimony.

Mr. Short has no copies of his testimonies referred to on page 4, lines 81 to 89 of his testimony. To the extent that these documents exist for New England jurisdictions, they are available on the websites of the Connecticut Public Utilities Commission, Maine Public Utilities Commission, Massachusetts Department of Energy Resources, New Hampshire Public Utilities Commission and the Rhode Island Public Utilities Commission.

Their respective website are http://www.ct.gov/dpuc/site/default.asp,

http://www.maine.gov/mpuc/,

http://www.mass.gov/?pageID=eoeeaagencylanding&L=5&L0=Home&L1=Grants+%26+Technical+Assistance&L2=Guidance+%26+Technical+Assistance&L3=Agencies+and+Divisions&L4=Department+of+Energy+Resources+(DOER)&sid=Eoeea,

http://www.puc.state.nh.us/

and http://www.ripuc.org/.

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1-7. Please have Mr. Short list and describe all offshore wind projects that he has been involved in developing, engineering, constructing or operating.

Like Deepwater Wind, Mr. Short has not developed, engineered, constructed or operated any offshore wind projects.

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1-8. Please have Mr. Short list all offshore wind projects in which he has participated in securing equity investments and describe his role in the capital raise.

Like Deepwater Wind, Mr. Short has not participated in securing equity investments in any offshore wind projects.

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1-9. Please have Mr. Short describe his experience in securing project financing for renewable energy projects whose capital costs exceed $100 million. In providing his description, please have Mr. Short identify:

a. The specific projects,
b. The financial institutions involved;
c. His role in the financing;
d. Whether each project qualified for the U.S. Treasury program introduced by Section 1603 of the American Recovery and Reinvestment Act of 2009; and
e. Whether each project has already applied for or received funds under that program.

Like Deepwater Wind, Mr. Short has not participated in securing project financing for renewable energy projects whose capital costs exceed $100 million and

- qualified for the U.S. Treasury program introduced by Section 1603 of the American Recovery and Reinvestment Act of 2009; and
- has already applied for or received funds under that program.

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1-10. Please have Mr. Short list all renewable energy projects with capital costs in excess of $100 million in which he has participated in securing equity investments and have him describe his role in the capital raise.

Mr. Short participated as a Vice President of Kidder, Peabody in the equity investment of Calpine Corporation and Freeport-McMoRan, Inc. in the purchase of approximately 300 MW of geothermal steam fields and 47 MW of geothermal power plants, located at The Geysers, California.

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1-11. Has Mr. Short forecasted REC prices in New England for any period over the next 20 years? If yes, please provide a copy of any such forecast(s).

Mr. Short forecasted REC prices in New England for the twenty-year period covering 2012-2032 for the previous Deepwater Wind proceeding (Docket # 4111). This REC price forecast can be found in Exhibit F under the column titled "REC Price Forecast ($/MWh)" of Michael and Maggie Delia Response to Commission's First Set of Data Requests.

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1-12. Has Mr. Short forecasted energy prices in New England of any period over the next 20 years? If yes, please provide a copy of any such forecast(s).

Mr. Short forecasted energy prices in New England for the Project for the twenty-year period covering 2012-2032 for the previous Deepwater Wind proceeding (Docket # 4111). These energy price forecasts can be found in Exhibit F under the columns titled "Low Spot Energy Price Forecast ($/MWh)" and "High Spot Energy Price Forecast ($/MWh)" of Michael and Maggie Delia Response to Commission's First Set of Data Requests.

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1-13. Has Mr. Short forecasted capacity prices in New England of any period over the next 20 years? If yes, please provide a copy of any such forecast(s).

Mr. Short forecasted capacity prices in New England for the Project for the twenty-year period covering 2012-2032 for the previous Deepwater Wind proceeding (Docket # 4111). This capacity price forecast can be found in Exhibit B under the column titled "Synapse Rhode Island -- Capacity $ KW-Month" of Michael and Maggie Delia Response to Commission's First Set of Data Requests.

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1-14. Please identify all forecasts of energy, capacity, or RECs that Mr. Short relied upon for drawing any of the conclusions in his testimony.

Mr. Short forecasted energy, capacity and REC prices in New England for the Project for the twenty-year period covering 2012-2032 for the previous Deepwater Wind proceeding (Docket # 4111). For details, please see Mr. Short's response to Deepwater First Set of Data Requests 1-11, 1-12 and 1-13.

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1-15. Please provide the support for Mr. Short's testimony on page 9, lines 232-234, of his testimony that a "comparable utility rates of return of 7.2% for investment and 9.0% for equity would be the norm."

Mr. Short's calculation of the rate of return for investment, 7.2%, is shown at the bottom of page 9 of his testimony. It is based upon the weighted average cost of his estimate of the cost of debt capital (6%) and his estimate of the cost equity capital (9%) for this project.

His debt cost of capital, 6%, is his opinion of the cost debt capital for the Project. His cost of equity of capital, 9%, is his estimate of the return on the equity portion for a New England electric utility's rate base.

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1-16. Please provide the support for Mr. Short's contention that rates of return of 7.2% for investment and 9.0% for equity are commercially reasonable for the Block Island Wind Farm Project.

Please see AG's response to Deepwater Wind's data request 1-15.

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1-17. Please have Mr. Short identify all of the offshore wind projects of a similar size and location and using the same technology as the Block Island Wind Farm proposed in this Docket that form the basis of his opinion on page 9, lines 232-234, of his testimony that a "comparable utility rates of return of 7.2% for investment and 9.0% for equity would be the norm." For each project, please list the following:

a. Project name;
b. Location;
c. Energy source;
d. Nameplate capacity;
e. Capacity factor;
f. Year of commercial operation;
g. Total capital costs;
h. Unlevered IRR;
i. Capital structure (use of equity and debt financing); and
j. Levered IRR.

Mr. Short is not aware of any offshore wind projects of a similar size and location and using the same technology as the Block Island Wind Farm that have been financed; accordingly, he cannot respond to this data request other than to say that his estimated rates of return of 7.2% for investment and 9.0% for equity are reasonable.

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1-18. Regarding pages 7 and 8 of Mr. Short's testimony, the Great Lakes Wind Energy Center project (the Cleveland Project) is presented as a comparable price. Regarding this testimony:

a. Does the Cleveland Project have any commercial sponsors and is it actively in development.
b. Please provide a copy of the Cleveland Project's PPA.
c. Please provide a detailed capital cost breakdown for the Cleveland Project.

Mr. Short believes that the Cleveland Project does not yet have any commercial sponsors or that the Cleveland Project is actively in development.

Mr. Short does not have a copy of the Cleveland Project's PPA.

Mr. Short does not have a detailed capital cost breakdown for the Cleveland Project. The most detailed capital cost breakdown for the Cleveland Project may be found on page 331 of Great Lakes Wind Energy Center-- Final Feasibility Study.

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1-19. On page 8 and 9 of Mr. Short's testimony, he provides testimony on the MWh price of the Bluewater Wind Farm in Delaware. In reference to this testimony, please provide the following:

a. All workpapers and analysis to show calculation of the adjustment to Bluewater's price to determine the project's price if it was built as a 28.8 MW project rather than the 450 MW cited Please state your assumptions on how large will the Bluewater project be in terms of installed capacity.

b. Please provide the calculations supporting the Bluewater Wind Farm in Delaware costs described in his testimony submitted in Docket 4111, showing how he adjusted for the fact that most RECs are not conveyed to the buyer under the references contract price. Describe the difference and provide all supporting calculation between the 2013 $140/MWh cost identified in your testimony and the 2012 all-in price of $178.35/MWh that you testified to in footnote 7 of your prefiled testimony.

c. Does the Bluewater project convey the same products to the buyers as the Deepwater Wind Block Island PPA?

Response:

As discussed in footnote 7, Mr. Short took the estimate, from the Great Lakes Study for the Cleveland project, of operating cost for the incremental increase in operating costs of large offshore wind projects of between $25 and $40 per MWh, subtracted those numbers from $140/MWh then added $46 to $61 per MWh to the Bluewater Wind project's estimated 2013 costs of $140 per MWh. The low number, $161 per MWh, is derived from $140 less $25 plus $61 per MWh. The high number, $175 per MWh, is derived from $140 less $25 plus $61 per MWh. Mr. Short ignored the results of using a $40 per MWh number since it resulted in a number of $146 per MWh as a 2013 project cost.

The number $140/MWh in 2013 dollars is the cost that Delmarva Power would pay Bluewater for its capacity, energy and RECs that Delmarva Power would receive under its contract. This number was calculated from the pricing discussed in Section 4 of the Delmarva Power – Bluewater Wind PPA. The number $178.35/MWh in 2012 dollars is the value of the capacity, energy and RECs that the Bluewater Wind project could produce to its owners. The difference between the two numbers is the potential value of the RECs that Bluewater Wind would retain for its own account.

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Like the Deepwater Wind project, the Bluewater Wind project creates capacity, energy and RECs and conveys these products to its buyers. Since the Bluewater Project is in PJM, it cannot convey NEPOOL GIS certificates; accordingly, it cannot convey the same RECs as would the Deepwater Wind Project convey to National Grid. In addition, PJM has a different capacity market than ISO-NE. Thus, its capacity values will not be identical to those that ISO-NE would credit the Deepwater Wind Project with under its PPA.

There are no relevant worksheets.

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1-20. On page 9 of Mr. Short's testimony, he indicates that "the commercially reasonable cost to construct the Project is in the vicinity of $160 million…" In reference to this testimony, please provide all workpapers and analysis to show his calculation of the $160 million cost.

The $160 million figure is the cost of the Project, under Mr. Short's assumptions, that would produce a 7.2% after-tax rate of return to an all equity-financed project. A copy of this analysis has been (or will be) supplied in conjunction with Attorney General's Responses to National Grid First Set of Data Request 1-2.

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1-21. Please provide all economic development, economic benefit and/or economic impact studies performed by Mr. Short in the last five years.

Other than the economic development, economic benefit and/or economic impact studies mentioned in Mr. Short's testimony, Mr. Short has not performed any such studies in the past five years.

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1-22. Regarding electricity generation on Block Island:

a. Does Mr. Short acknowledge that electricity on Block Island is currently produced using diesel fueled generators?
b. If the answer to subsection "a" is yes, does Mr. Short contend that this is "best practices" for the production of clean energy?
c. If the answer to subsection "a" is yes, how is the fuel delivered to BI and what are the annual emissions produced on BI with regard to particulates, nitrogen oxides, sulfur oxides and carbon dioxide?

Mr. Short acknowledges that electricity on Block Island is currently produced using diesel fueled generators.

For small island power systems like Block Island, this may be a best practice. Small electric networks do not have the ability to take advantage of the economy of scale and economics of numbers of larger island power systems. It is hard to compare Block Island's electric system to larger island system; instead it should be compared to small island systems like those off of the coast of Maine that, like Block Island, are not interconnected to the mainland. It is Mr. Short's belief that these islands use diesel engines to generate their electrical energy.

While Mr. Short is not aware how the fuel is delivered to Block Island's electric generation units, it is his belief that it can be delivered by either ferried truck or barge. Other than what Michael Sullivan of RI DEM reported on Block Island's diesel engines' air emissions, Mr. Short has no knowledge of the annual emissions produced on Block Island with regard to particulates, nitrogen oxides, sulfur oxides and carbon dioxide. Mr. Short has been informed that many homes and business on Block Island use fuel oil for heating and production of hot water; thus, Mr. Short only has a limited knowledge of the Block Island's carbon footprint and air emissions.

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1-23. Regarding Jay Apt's Carnegie Mellon Study referenced on page 19 of Mr. Short's testimony, please state why Mr. Short believes that a small, isolated system is a more appropriate model than a model of the ISO-NE system?

Although Mr. Short does not understand this data request since the request appears to suggest that Jay Apt's analysis looked at only a small isolated electric system, Mr. Short believes that Dr. Apt studied the CO_2 and NOx emission results from natural gas-fired generation that was part of a large system, such as ISO-NE, that possessed wind and solar generation. Accordingly, he believes that Dr. Apt's work is appropriate to the situation.

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1-24. Describe the difference and provide all supporting calculation between Bluewater's 2013 $140/MWh cost identified on page 8, line 212 of Mr. Short's direct testimony in Docket 4185 and the 2012 all-in price of $178.35/MWh set forth on page 6, footnote 7, of Mr. Short's testimony in Docket 4111.

The number $140/MWh in 2013 dollars is the cost that Delmarva Power would pay Bluewater for its capacity, energy and RECs that Delmarva Power would receive under its contract. This number was calculated from the pricing discussed in Section 4 of the Delmarva Power – Bluewater Wind PPA. The number $178.35/MWh in 2012 dollars is the value of the capacity, energy and RECs that the Bluewater Wind project would produce. The difference between the two numbers is the potential value of the RECs that Bluewater Wind would retain for its own account.

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1-25. Please provide the support for Mr. Short's contention that 2.5% is a commercially reasonable rate of annual escalation.

Mr. Short cites the escalation rates of the Bluewater Wind PPA with Delmarva Power and the Great Lakes Wind Energy Center -- Final Feasibility Study as well as the average C.P.I. increase for the period 1982-1984 to June 2010 for Gas (piped) and Electricity. Regarding this latter number, 2.47%, the base is 100 in 1982-1984 and 196.019 in June 2010. (Background information on this latter number may be found at http://www.bls.gov/cpi/cpid1006.pdf).

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