

April 25, 2012

**VIA HAND DELIVERY & ELECTRONIC MAIL**

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

**RE: Docket 4319 - Review of Power Purchase Agreement With Black Bear  
Development Holdings, LLC Pursuant to RI General Laws § 39-26.1 *et seq.*  
Responses to Commission Data Requests – Set 2**

Dear Ms. Massaro:

Enclosed are ten (10) copies of National Grid's<sup>1</sup> response to the Commission's Second Set of Data Requests, which contained only one question within the set, in the above-captioned proceeding.

Thank you for your attention to this filing. If you have any questions, please feel free to contact me at (401) 784-7288.

Very truly yours,



Jennifer Brooks Hutchinson

Enclosures

cc: Docket 4319 Service List  
Jon Hagopian, Esq.  
Steve Scialabba, Division

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<sup>1</sup> The Narragansett Electric Company d/b/a National Grid (hereinafter referred to as "National Grid" or the "Company").

### Certificate of Service

I hereby certify that a copy of the cover letter and / or any materials accompanying this certificate has been electronically transmitted, sent via U.S. mail or hand-delivered to the individuals listed below.



Joanne M. Scanlon

April 25, 2012

Date

**Docket No. 4319 National Grid – PPA w/ Black Bear Development Holdings, LLC**

**Service List updated 4/12/12**

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<b>File an original &amp; 10 copies w/:</b> Luly E. Massaro, Commission Clerk Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	<a href="mailto:Lmassaro@puc.state.ri.us">Lmassaro@puc.state.ri.us</a>	401-780-2017
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Commission 1-1

Request:

With regard to the confidential version of Exhibit 2, page 2 of 4 (monthly table) please provide an *illustrative* example of the above/(below) market cost calculation for any given month. The response should include the formula utilized to calculate the above/(below) market cost as well as an explanation of each component of the formula. The response should include *illustrative/hypothetical* inputs to avoid the need for confidential treatment of the response.

Response:

The monthly table below contains hypothetical data inputs that illustrate a comparison of the contract value calculated by monthly peak and off-peak energy production, together with the market price forecast of the monthly peak and off-peak energy prices, annual REC prices, and annual capacity prices.

The Zonal Price Separation is calculated by taking the difference of the energy prices (LMP) between Rhode Island and Maine and multiplying that amount by the energy production. In this example, the values show a market cost for congestion/transmission between the two delivery points of \$10/MWh for both on-peak and off-peak. This value does not affect the above/(below) market calculation, but is captured in the fixed price of the contract.

The Rhode Island Market Value is comprised of three components: (i) energy value; (ii) capacity value<sup>1</sup>; and (iii) REC value. The energy value is calculated by multiplying the forecasted energy price (on-peak and off-peak) by the expected energy production (on-peak and off-peak) for that month. The capacity value is calculated by multiplying the forecasted capacity price (\$/kW-month) by 1,000 kW/MW in order to get a price per MW, and then multiplying that amount by the nameplate capacity of the project and the capacity factor for the FCM. The REC value is a product of the forecasted REC price multiplied by the total energy production (on-peak and off-peak) for that month.

The Contract Price is the total energy production (on-peak and off-peak) multiplied by the contract rate applicable to that month.

The Above Market Cost is the difference of the Contract Price and the Rhode Island Market Value.

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<sup>1</sup> The capacity value calculation is a simplification of the ISO-NE FCM rules for qualifying capacity due to the nature of using submitted bid information for the purpose of the initial pricing ranking.

The Narragansett Electric Company  
d/b/a National Grid  
Docket No. 4319  
In re: National Grid PPA with  
Black Bear Development Holdings, LLC  
Responses to Commission Data Requests – Set 2  
Issued April 18, 2012

Commission 1-1 (continued, p2)

The formulas are broken down and shown below:

	RI Energy Prices (ESAI)		ME Energy Prices (ESAI)		Energy Production		(G) Capacity	(H) RECs	(I) Zonal Price Separation	(J) RI Market Value	(K) Contract Price	(L) Above Mkt Costs
	(A) On-Peak	(B) Off-Peak	(C) On-Peak	(D) Off-Peak	(E) On-Peak	(F) Off-Peak						
							\$/kw-mo	\$/MWH	\$	\$	\$	\$
Jan	\$80	\$60	\$70	\$50	3,000	3,000	\$5	\$50	\$60,000	\$760,000	\$600,000	-\$220,000

(M) Nameplate Capacity (MW) = 10 MW

(N) Capacity Factor for FCM (%) = 80%

(O) Contract Rate (\$/MWh) = \$100/MWh

**Data Inputs:**

(A) RI Energy Prices – On-Peak (\$/MWh)

(B) RI Energy Prices – Off-Peak (\$/MWh)

(C) ME Energy Prices – On-Peak (\$/MWh)

(D) ME Energy Prices – Off-Peak (\$/MWh)

(E) Energy Production – On-Peak (MWh)

(F) Energy Production – Off-Peak (MWh)

(G) Capacity Price (\$/kW-mo)

(H) REC Price (\$/MWh)

(I) Zonal Price Separation (\$)

(J) RI Market Value (\$)

(K) Contract Price (\$)

(L) Above Market Cost (\$)

(M) Nameplate Capacity (MW)

(N) Capacity Factor for FCM (%)

(O) Contract Rate (\$/MWh)

Commission 1-1 (continued, p3)

**Calculations:**

$$(I) \text{ Zonal Price Separation} = \{[(A) - (C)] \times (E)\} + \{[(B) - (D)] \times (F)\}$$

$$(J) \text{ RI Market Value} = \text{Energy Value} + \text{Capacity Value} + \text{REC value, where:}$$

$$\text{Energy Value} = [(A) \times (E)] + [(B) \times (F)]$$

$$\text{Capacity Value} = (G) \times (1,000 \text{ kW/MW}) \times (M) \times (N)$$

$$\text{REC Value} = (H) \times [(E) + (F)]$$

$$(J) \text{ RI Market Value} = [(A) \times (E)] + [(B) \times (F)] + [(G) \times (1,000 \text{ kW/MW}) \times (M) \times (N)] + \{(H) \times [(E) + (F)]\}$$

$$(K) \text{ Contract Price} = (O) \times [(E) + (F)]$$

$$(L) \text{ Above Market Costs} = (K) - (J)$$

Prepared by or under the supervision of: Corinne M. Abrams