

January 31, 2017

VIA HAND DELIVERY & ELECTRONIC MAIL

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

RE: Docket 4672 - Proposed 2017 Renewable Energy Growth Program Tariff and Rule Changes
Responses to PUC Data Requests – Set 2

Dear Ms. Massaro:

On behalf of National Grid,¹ I have enclosed the Company's responses to the second set of data requests issued by the Rhode Island Public Utilities Commission (PUC) in the above-referenced docket.

Thank you for your attention to this matter. If you have any questions, please contact me at 401-784-7288.

Very truly yours,



Jennifer Brooks Hutchinson

Enclosures

cc: Docket 4672 Service List
Leo Wold, Esq.
Jon Hagopian, Esq.
Steve Scialabba, Division

¹ The Narragansett Electric Company d/b/a National Grid (National Grid or Company).

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.



Joanne M. Scanlon

January 31, 2017

Date

**Docket No. 4672 – Renewable Energy Growth Program for Year 2017
RI Distributed Generation Board and National Grid**

Service List updated 1/5/17

Parties' Name/Address	E-mail	Phone
Jennifer Hutchinson, Esq. Celia O'Brien, Esq. National Grid 280 Melrose Street Providence, RI 02907	Jennifer.hutchinson@nationalgrid.com ;	781-907-2121
	Celia.obrien@nationalgrid.com ;	
	Joanne.scanlon@nationalgrid.com ;	
	Ian.springsteel@nationalgrid.com ;	
	Omar.Muneeruddin2@nationalgrid.com ;	
Andrew Marcaccio, Esq. Dept. of Administration Division of Legal Services One Capitol Hill, 4 th Floor Providence, RI 02908	Andrew.Marcaccio@doa.ri.gov ;	401-222-8880
	Carol.Grant@energy.ri.gov ;	
	Christopher.Kearns@energy.ri.gov ;	
	Nicholas.ucci@energy.ri.gov ;	
Jon Hagopian, Sr. Counsel Division of Public Utilities and Carriers	Jon.hagopian@dpuc.ri.gov ;	401-784-4775
	Steve.scialabba@dpuc.ri.gov ;	
	Macky.McCleary@dpuc.ri.gov ;	
	Jonathan.Schrag@dpuc.ri.gov ;	
	Al.contente@dpuc.ri.gov ;	
Richard Hahn Carrie Gilbert Daymark Energy Advisors 1 Washington Mall, 9th floor Boston, MA 02108	rhahn@daymarkea.com ;	
	cgilbert@daymarkea.com ;	
File an original & 9 copies w/: Luly E. Massaro, Commission Clerk Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	Luly.massaro@puc.ri.gov ;	401-780-2107
	Alan.nault@puc.ri.gov ;	
	Todd.bianco@puc.ri.gov ;	
	Linda.george@puc.ri.gov ;	
Seth H. Handy, Esq. Handy Law, LLC	seth@handylawllc.com ;	401-626-4839
Mark Depasquale, Wind Energy Development	md@wedenergy.com ;	
Jerry Elmer, Esq., CLF	jelmer@clf.org ;	401-351-1102
Charlie Grant, Essex Capital Partners	cgrant@essexcapitalpartners.com ;	

PUC 2-1

Request:

Please confirm that an Applicant who participates in the proposed Zero Energy Building Rate Option may potentially purchase more renewable energy attributes than consumed on-site. Please explain your answer.

Response:

For an applicant that is being provided electricity under National Grid rates and utilizing the RE Growth program to support a Distributed Generation (DG) system on site, the Company bills the customer for the full amount of energy used on site, and then, under option 2, with the application of bill credits, provides a credit to the customer for energy used on-site during the billing period. The Company does incur the Renewable Energy Standard (RES) obligation for load provided to a Standard Offer Service customer at the current level of RES compliance obligation; if the customer is receiving competitive supply, then the RES obligation would be the responsibility of its competitive supplier. If the DG system enrolled in the ZEB Rate Option over the course of a year provides Renewable Energy Certificates (RECs) at a percentage greater than the total use less the percent covered by the RES purchased by the Company for its RES obligation, then it is possible for the customer to purchase and retire more RECs than it needs to match 100% of its use with such RECs. However, the concern of the Zero Energy Task Force, as expressed in its Whitepaper, was that on-site generation options would on average be insufficient to meet 100% of annual usage, and no concern was raised with “over-retirement” of RECs by ZEB building sponsors. The following examples may make this more clear:

	Example 1	Example 2
On Site Use, Annual	120 MWh (100%)	120 MWh (100%)
On Site ZEB Rate RECs retained (% of On-Site Use)	80 MWh (66%)	120 MWh (100%)
RES Obligation % (# REC Provided)	15% (18 MWh/RECs)	15% (18 MWh/RECs)
Total Use (and %) Matched with RECs	98 MWh (81.7%)	138 MWh (115%)

PUC 2-2

Request:

Please confirm that for customers with Zero Energy Buildings, an alternative to the ZEB Rate Option is to participate in the Green Up Program. Please explain your answer.

Response:

Based on the Company's understanding of the Rhode Island Zero Energy Building Taskforce Whitepaper Report (Whitepaper) recommendations, a developer who has a building and is seeking the Zero Energy Building (ZEB) designation and potential incentives associated with such designation would not be allowed to solely use Renewable Energy Certificates (RECs) from generation that is off-site to meet the building's renewable energy needs. As stated in the Introduction of the Whitepaper, the definition of a ZEB emphasizes on-site generation to meet the net annual energy requirements of a ZEB, as excerpted below¹:

"In summary, the taskforce proposes the following direction for the subsequent ZEB committee to define Rhode Island specific Zero Energy Buildings:

- Department of Energy's (DOE) definitions for buildings, campuses and portfolios should be applied as a starting point and then tailored to Rhode Island-specific needs.
- The modified ZEB definitions should include the three core components of ZEBs, also highlighted in the figure here as the three core components of ZEBs:
 1. Energy efficiency first (design the home/building energy usage to its base minimum Energy Use Intensity during design and construction).
 2. Use on-site renewable energy (RE) to support the remaining home/building energy needs. If the on-site RE potential is limited or not feasible, the definition should allow site owned RECs or off-site RE. (Refer to RECs implications in appendix of this document).
 3. Post Occupancy: After occupancy, operate and use the home/building per ZEB design specifications for at least twelve months before considering it a ZEB home/building. (Figure here shows that plus loads and post occupancy operations are a big portion of the energy use in a high performance commercial ZEB.)

¹ "Zero Energy Building Pathway to 2035: Whitepaper Report of the Rhode Island Zero Energy Building Task Force," November 2016, page 8, https://www.nationalgridus.com/media/trade/ri-ee-task-force/cm6459-ri-zne-white-paper-12_16.pdf

PUC 2-2, page 2

In relation to the RECs Implications in the Appendix of the document, the Task Force highlighted the various issues associated with allowing buildings seeking to be ZEBs to source RECs from off-site resources, as would occur through a Green Up or other voluntary REC purchase program. That page of the Appendix is excerpted in full below:

“2.0 Renewable Energy Credits (RECs): issues and challenges

- The sale of a REC is a one-time transaction that effectively “retires” the ability to take additional credit from the benefits provided by the renewable energy system. This can have the following Implications:
 - o Any building owner with onsite solar can sell the REC associated with that energy production effectively removing the possibility of that system offsetting the onsite consumption needed for it to be a ZEB.
 - o Similarly, building or site mounted renewables that contribute to a utility Renewable Energy Portfolio Standard (REPS) as RECs are stripped from the renewable energy system and cannot count as contributing to a building achieving Zero Net Energy.
- RECs may provide a non-efficiency based pathway for ZEBs that is not aligned with the DOE definitions (an energy-efficient building, campus, portfolio and community...) as well as the position stated by this task force emphasizing efficiency as a first priority.
- High-performance buildings with a focus on energy efficiency as a first priority tend to have flatter load profiles and fewer adverse grid effects. Buildings that use RECs to achieve ZEB goals rather than implementing an efficiency-first strategy may have an adverse impact on grid stability, affordability, safety and longevity.
- The US Department of Energy (US DOE) primary ZEB definition and its variations (Campus, Portfolio, Community) do not allow renewable energy purchased through the use of RECs to be used in the ZEB energy accounting.
- A second tier (auxiliary) definition for REC-ZEBs has the potential to provide additional market confusion on the topic of ZEB definitions and devalue ZEB projects that have achieved that goal through renewable energy collected and generated within the site boundary.
- The value of a REC associated with a renewable energy system is generally not equivalent to the financial investment needed to build that same system. The value of RECs is derived from

PUC 2-2, page 3

the REC market rather than the actual cost of building and installing renewable energy production systems. The low market valuation of RECs offers buyers an “easy out” and does not equate to the benefit of investing in building or developing their own renewable energy production systems. Allowing RECs to be included as part of the ZEB definition risks disincentivizing investment in actual renewable energy production systems at the building level.”²

² “Zero Energy Building Pathway to 2035: Appendix Supporting the Whitepaper Report of the Rhode Island Zero Energy Building Taskforce,” November 2016, page 5. https://www.nationalgridus.com/media/trade/ri-ee-task-force/cm6459-ri-zne-white-paper-appendix-12_16.pdf

PUC 2-3

Request:

Please explain how purchasing RECs through the Zero Energy Building Rate Option renders a building “zero energy”.

Response:

The U.S. Department of Energy definition of a Zero Energy Building is, “An energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy.”¹ In addition, the DOE provides a definition for buildings that meet part of their needs with on-site generation and part with off-site generated RECs matched with its net energy deliveries; this accommodates the situation where site or building size limits the size of the DG system on-site, restricting the ability of the host to meet on-site load with on-site generation. The DOE report discusses this issue as cited below:

Using Renewable Energy Certificates (REC)

Renewable Energy Certificates (RECs) are tradable instruments that can be used to meet voluntary renewable energy targets. Energy users can meet voluntary renewable energy goals and support the deployment of green power through the purchase of RECs. RECs are a credible and easy means to keep track of who can claim the environmental attributes of renewable electricity generation on the grid. Once a buyer makes an environmental claim based on a REC, the buyer can no longer sell the REC and the REC is considered permanently “retired”.

The ZEB definition and its variations (Campus, Portfolio, Community) require on-site renewable energy to be used to fully offset the actual annual delivered energy and require the RECs to be retained or retired. The definitions do not allow renewable electricity purchased through the use of renewable energy certificates (RECs) to be used in the ZEB energy accounting.

Multi-story buildings that occupy entire lots located in dense urban areas, or buildings, such as hospitals with high process loads, may not be able to balance annual delivered energy with on-site renewable energy simply because the site is not large enough to accommodate all the on-site renewable energy required. These building owners may choose to have off-site renewable electricity utilizing RECs help balance the annual delivered energy since their built-up area may result in a commensurate energy requirement that is difficult to meet with a small building site. The following REC-ZEB definition allows RECs to be used to supplement, after on-site

¹ “A Common Definition for Zero Energy Buildings,” October 2015, Prepared for the U.S. Dept. of Energy by the National Institute of Building Sciences, page 4.
https://energy.gov/sites/prod/files/2015/09/f26/bto_common_definition_zero_energy_buildings_093015.pdf ;

PUC 2-3, page 2

renewable energy sources have been employed, and balance the annual delivered energy to the building.

Renewable Energy Certificate - Zero Energy Building (REC-ZEB)

An energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy plus acquired Renewable Energy Certificates (RECs)."²

² Id. at 10.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4672
In Re: Renewable Energy Growth Program for 2017
Responses to Commission's Second Set of Data Requests
Issued on January 17, 2017

PUC 2-4

Request:

For each year of Renewable Energy Growth Program enrollment, please identify the total number of bids and the total megawatts bid for each class and technology.

Response:

Please see Attachment PUC 2-4 for the requested information relating to the Renewable Energy Growth Program.

Docket No. 4672 - The Renewable Energy Growth Program for Year 2017
Response to Rhode Island Public Utilities Commission January 17, 2017 Data Request 2-4
January 31, 2017

Renewable Energy Growth Program - 2015 Program Year

Renewable Energy Class (Nameplate kW)	Number of Eligible Applications Received	Nameplate Capacity of Eligible Applications Received (kW)
Commercial-Scale Solar (251-999 kW DC)	5	4,147
Large-Scale Solar (1,000-5,000 kW DC)	2	6,644
Wind (1,500-5,000 kW)	2	6,000
Wind (1,500-2,999 kW)		
Wind (3,000-5,000 kW)		
Anaerobic Digestion (150-1,000 kW)	0	0
Small-Scale Hydropower (10-250 kW)		
Small-Scale Hydropower (251-1,000 kW)		
Total:	9	16,791

Notes

1) Pursuant to R.I. Gen. Laws 39-26.6-12(a), National Grid held two open enrollments in the 2015 Program Year.

Renewable Energy Growth Program - 2016 Program Year

Renewable Energy Class (Nameplate kW)	Number of Eligible Applications Received	Nameplate Capacity of Eligible Applications Received (kW)
Commercial-Scale Solar (251-999 kW DC)	8	7,559
Large-Scale Solar (1,000-5,000 kW DC)	3	10,554
Wind (1,500-5,000 kW)	2	3,000
Wind (1,500-2,999 kW)		
Wind (3,000-5,000 kW)		
Anaerobic Digestion (150-1,000 kW)	0	0
Small-Scale Hydropower (10-250 kW)		
Small-Scale Hydropower (251-1,000 kW)		
Total:	13	21,113

Notes

1) After submitting its application for a Large-Scale Solar project, an applicant withdrew the application for that project. That project is reflected in the chart above.