



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

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February 20, 2015

SENT VIA FIRST CLASS MAIL AND ELECTRONIC MAIL:

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

RE: Rhode Island DG Board's Recommendation for 2015 Reg Ceiling Prices, Classes and Targets - Docket No. 4536-B

Dear Ms. Massaro:

Attached is an original and ten (10) copies of both the Commission's First Set of Data Requests directed to RIDG Board (February 6, 2015) and also the Commission's Second Set of Data Requests directed to RIDG Board (February 12, 2015) pertaining to the above mentioned matter.

Sincerely,

Daniel W. Majcher, Esq.

DWM/njr

Enclosure

c. Docket List - 4536-B

State OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

IN RE: RHODE ISLAND DG BOARD'S
RECOMMENDATIONS FOR 2015 REG
CEILING PRICES, CLASSES AND TARGETS

DOCKET NO. 4536-B

COMMISSION'S FIRST SET OF DATA REQUESTS
DIRECTED TO RIDG BOARD
(February 6, 2014)

COMM 1. Page 10. Explain the methodology supporting the representation that the 2015 REG program is 1.3% of the state's historic peak load. Include in your response the state's peak load and the source used to determine the state's peak load.

The estimated percentage for the 25 megawatts of nameplate capacity from the 2015 REG Program, was based on the peak load number (1,932 megawatts) provided on National Grid's website at the time the Report was being prepared. The information can be viewed at the following link:

http://www.nationalgridus.com/narragansett/business/energyeff/4_net-mtr.asp

COMM 2. Page 16 (Exhibit C-Recommended Technology Classes and Targets). Did the Board intentionally elect not to distinguish between the 15 and 20 year tariff subcategories for the small solar I-host owned class? If yes, is it true that there are no separate class targets for the 15 and 20 year tariff categories in the small solar I-host owned class?

The Board wanted to provide 15 and 20 year tariff options for the small solar host owned class to enable that particular market flexibility in determining whether they would want to pursue tariffs of this length. The Board is seeking to evaluate how the small solar host owned program will work in its first year. There is no split in the three megawatt allocation plan amongst the small solar classes. The three megawatts will be available on a first-come-first-served basis to both the host owned and third party small solar classes.

COMM 3. Page 8. Did the Board assume the small wind class (1.5 to 2.99 MW) will not receive ITCs in 2014 or 2015? The filing says 2014 (last paragraph).

The Board assumed that the federal Investment Tax Credit (ITC) (as an option in lieu of the federal Production Tax Credit (PTC)) would not be available to wind (or anaerobic digester, or hydroelectric) projects commencing construction after December 31, 2014. The Board requests that eligibility or ineligibility for federal incentives be verified as part of the tariff application process. The federal PTC (or ITC in lieu thereof) expired on January 1, 2015. Only projects under construction or having made qualifying expenditures prior to this date are eligible to receive the PTC/ITC.

COMM 4. Explain why the Board initially assumed \$0.00 in year one project management costs and later revised to \$150 in the small solar 1-3rd party and the small solar II classes (slide 16 and 17). Also explain why the initial fixed O&M estimate of \$10.00 was revised to \$15.00. Include in your response the unit of measurement for the fixed O&M.

The objective of this process is to recommend ceiling prices based on the modeling of representative projects. Through the collection of stakeholder feedback and supplementary research, each of the modeling inputs was estimated and then refined to provide a reasonable estimate of a representative project's cost structure. Based on the data available, all solar projects less than 250 kW were assumed to have some modest annual project management expenses (\$150/year), and solar projects of all sizes were assumed to have the same O&M cost on a kW basis. The units for estimated O&M expenses are dollars per kW per year.

COMM 5. Solar Ceiling Price Assumptions (Slide 17). Why is a \$0 land lease assumed for the small solar II class?

Land lease is assumed to be \$0 for all solar < 250 kW. These facilities are assumed – for the purpose of modeling representative projects – to be mounted on the roof of host-owned (or leased) buildings. Payment for such roof space is assumed not to be required.

COMM 6. Slides 14 and 49 appear to indicate that the Board assumed 0% state and federal income tax rates for small solar host owned. Why. Include in your response the state and/or federal rule and/or statutory provision supporting any tax exempt status given to this class, as well as a definition for NMC.

NMC refers to “Net Metering Credits.”

Currently, there are no federal or state statutory provisions which expressly exempt net metering credits and performance based incentive payments to residents from being taxable income. However, discussion with developers and other participants in the renewable energy space and experience in other states suggests that, at least currently, net metering credit payments to residents (as opposed to businesses) are not being taxed at the state or federal level.

COMM 7. In Property Tax Assumption (slide 14), please explain the acronym MACRS. Identify both the terms that it stands for and the meaning as used in this slide.

“MACRS” refers to Modified Accelerated Cost Recovery System, the tax depreciation system currently used in the United States for the majority of capitalized costs associated with renewable energy project installations. The present MACRS depreciation system was adopted as part of the Tax Reform Act of 1986.

The aforementioned slide (which is assumed to refer to Slide #14 in Attachment #9 to Exhibit B) shows that earlier in the process, ceiling prices were modeling assuming that Small Solar I (<25kw) host-owned systems could take advantage of MACRS depreciation.

However, as residents cannot take advantage of MACRS depreciation, this assumption was adjusted in later modeling efforts.

COMM 8. How does the proposed 2015 small residential ceiling price compare to ceiling prices in other New England states as well as nationally?

Comparison of proposed ceiling prices under the 2015 REG to “ceiling prices” in New England and other states is difficult and problematic for two reasons: 1.) the type and structure of incentives, as well as the policy objective, differs significantly from state to state; and 2.) the 2015 REG has a statutorily promulgated target (3 MW for Small Solar annually), which implicitly assumes a target adoption rate.

The 2015 REG program uses a standard offer, tariff like mechanism to provide incentives to renewable energy projects. In contrast, other states in the region and nation use a multitude of incentive systems.

Some states promote solar development via rebates and grants, or through subsidized loan programs. Others allow residential solar system owners to take advantage of certain financing incentives, while simultaneously taking advantage of revenue from net-metering, virtual net-metering, or various forms of performance-based incentives. Still others use adders (increased incentives if a solar system uses certain parts, is developed in a certain area, or otherwise conforms to policy goals) or market based mechanisms (Solar Renewable Energy Certificates) to promote development. Cross comparison, given the timing of payments, the risks to participants, and the mechanisms which characterize each states’ programs, is difficult.

Further, the Rhode Island REG has a statutorily promulgated target, that 3 MW of Small Solar I & II systems be installed during each year of the REG. This target naturally differs from targets/policy in other states, and therefore implicitly assumes a target adoption rate (of solar by residents) which will differ from the target adoption rate in other states. Proposed 2015 REG Small Solar I ceiling prices are intended to balance cost and policy adoption objectives. Incentives used in other states are set to achieve different adoption rates and policy goals, and will therefore differ^[MD(1)].

COMM 9. The following questions pertain to the assumptions used for medium solar ceiling price provided in slide 18.

a) Why did you assume \$0.00 in lease payments for medium solar?

Please see response to COMM. 5.

b) Why did you initially assume a \$1,500 lease payment for medium solar?

Initially, the lease payment for medium solar was scaled based on the lease payment for commercial and large solar. This implied a ground-mounted system. Based on stakeholder

feedback, it was determined that the representative project should assume roof-mounting and no lease payment.

COMM 10. Referring to the sensitivity analysis (slide 37), explain why the ceiling prices for the small solar I classes are more greatly affected by interconnection costs than larger solar classes. Your response should include both an explanation of the interconnection sensitivity disparity between the classes and also an explanation as to why the interconnection sensitivity for small solar is in the 73% - 79% range.

As outlined in slide #36 (Attachment #9 to Exhibit B), the sensitivity analysis attempts to demonstrate the effects of the magnitude of certain variables on ceiling prices, by presenting a counterfactual scenario where certain costs (here interconnection) are reduced to zero, and ceiling prices are recalculated.

We believe the question in COMM 10 misinterprets the figures in the chart in Slide #37, Attachment #9 to Exhibit B. The chart shows that, for Small Solar I, setting interconnection costs to \$0.00/kW decreases ceiling prices by 0.73-0.79% (not 73-79%), depending on tariff length. This indicates that interconnection cost assumptions have a very limited impact on Small Solar I ceiling prices.

For larger systems, interconnection cost assumptions have a greater impact on modeled ceiling price (with ceiling prices for Large and Commercial classes declining by 3.5-7% if installed costs are set to \$0/kW). This is because:

- 1. *Modeled ceiling prices decrease as solar system size increases*, due to a number of assumptions. Thus if installation cost (\$/kW) were held constant across all solar classes, installation costs would have a larger impact on prices.**
- 2. Data from National Grid shows that *installation costs, per kW, increase as solar system size increases*. The installation cost ceiling price assumptions, based off of National Grid data, can be readily seen in slide #46 of Attachment #9 to Exhibit B. For Small Solar, installation costs are assumed to be \$31/kW; for Commercial and Large Solar, installation costs are assumed to be \$86/kW and \$155/kW, respectively. Higher costs per kilowatt of capacity have greater impacts on ceiling prices.**

COMM 11. Referring to the sensitivity analysis (slide 52), explain in detail why the interconnection sensitivity increased in the small solar classes from the figures shown in slide 37.

The referenced slide, #52 in Attachment #6 to Exhibit B, shows ceiling price sensitivity based on interim ceiling prices presented at a November 20, 2014 public meeting. In that sensitivity analysis, reducing installation costs to \$0/kW (from \$31/kW) for Small Solar I & II technology classes, had the effect of lowering the November 20, 2014 ceiling prices by 0.93%-1.14% (a very minor effect).

In contrast, the sensitivity analysis shown in Slide #37 of Attachment #9 to Exhibit B shows the sensitivity of final ceiling prices presented on December 9th 2014. In that sensitivity

analysis, reducing installation costs to \$0/kW (from \$31/kW) for Small Solar I & II had the effect of lowering the December 9, 2014 ceiling prices by 0.73%-1.01% (again, a very minor effect).

The minor change in ceiling price sensitivity to installation costs, where installation costs were held constant, between the November 20th and December 9th, 2014 is partially the result of changes in overall ceiling prices between the November 20th and December 9th meeting.

- Modeled ceiling prices increased slightly for Small Solar I-Host Owned (by roughly 0.5%), making interconnection cost less impactful (other things constant), and making ceiling price sensitivity to interconnection cost decrease.
- Modeled ceiling prices increased slightly for Small Solar I-Third Party owned (by roughly 7.0%), making interconnection cost less impactful (other things constant), and making ceiling price sensitivity to interconnection cost decrease.
- Modeled ceiling prices decreased for Small Solar II (by roughly 12.0%), making interconnection cost more impactful (other things constant), and making ceiling price sensitivity to interconnection cost increase.

The above explains the majority of the change in ceiling price sensitivities between November 20th and December 9th. However changes to other assumptions (such assumptions being documented in Attachments #6 & #9 to Exhibit B) can also affect sensitivity.

COMM 12. Define average mill rate (Property Tax Assumptions, slides 6,7).

The referenced slides, #6 & 7 in Attachment 6 to Exhibit B, uses the term "Mill Rate." Mill rate means the tax rate per \$1,000 (one thousand dollars) of assessed value; e.g. if Mill Rate is \$18.80, this means that for every \$1000 of assessed value, a \$18.80 property tax is levied. Mill Rate data is based on actual 2014 Rhode Island municipal tax rates. Only Private Property (as opposed to Commercial or Residential) Mill Rates were used in modeling ceiling prices. Outlier Mill Rates were removed as part of modeling ceiling prices.

The term "Average Mill Rate" is used to refer to both the "Straight Average Mill Rate," which is applied to Hydro I & II and Solar I & II technology classes, as well as the "Weighted Average Mill Rate," which is applied to all other classes.

The Straight Average Mill Rate refers to the average of Private Property Mill Rates in all Rhode Island cities and towns. The Weighted Average Mill Rate is the average of Private Property Mill Rates in all Rhode Island cities and towns, weighted by the number of megawatts of the particular renewable energy technology (solar, wind or anaerobic digestion) installed in each community during the previous years of the RI Distributed Generation program.

COMM 13. Wind Inputs (Slide 27). What is the significance, if any, tied to the inputs shown in green and blue.

This response assumes that COMM 13 refers to Slide 27 of Attachment #9 to Exhibit B. The Chart in slide #27 shows ceiling prices for Wind I and Wind II technology classes if a 21% capacity factor is assumed in blue; this was the capacity factor assumption used in modeling final ceiling prices.

The chart also shows ceiling prices if a 20% capacity factor was assumed (in green), as well as ceiling prices if a 23% capacity factor was assumed (in red).

State OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

IN RE: RHODE ISLAND DG BOARD'S
RECOMMENDATIONS FOR 2015 REG
CEILING PRICES, CLASSES AND TARGETS

DOCKET NO. 4536-B

COMMISSION'S SECOND SET OF DATA REQUESTS
DIRECTED TO RIDG BOARD

(February 12, 2015)

Reply by February 27, 2015

COMM 1. Please explain how the Boards' proposed class and enrollment targets for 2015 satisfy the following statutory criteria:

"1)...the new annual, class, and enrollment levels reasonably assure that competition among projects for the applicable bidding classifications remains robust and likely to yield reasonable and competitive program costs; 2) ...assuming prudent management of the program, the electric distribution company should be able to perform the studies and system upgrades on a timely basis necessary to accommodate the number of applications associated with the targets without materially adversely affecting other electric distribution construction projects needed to provide reliable and safe electric distribution service; and 3) any other reasonable factors that are consistent with the legislative purpose of this chapter as set forth herein, including the program purpose to facilitate the development of renewable distributed generation in the load zone of the electric distribution company at reasonable cost." [R.I.G.L. 39-26.6-12(h)]

The Board's 2015 REG Report and Recommendations meets these statutory requirements for the following reasons:

- 1.) A majority of the megawatt allocation plan is allocated to renewable energy classes where the bidding (price per kilowatt hour) process will occur during the 2 open enrollments, which will enable a robust and competitive program to occur;**
- 2.) The program was developed in coordination with the electric distribution company managing the program, which will enable the electric distribution company and their staffs to execute the program requirements for 2015; and**
- 3.) A balanced megawatt allocation plan and enrollment process for the residential and commercial renewable energy sectors that will create a variety of jobs (electrician, marketing, carpentry, excavation, engineering) associated with these tariff based renewable energy installations.**