STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Division of
Public Utilities and Carriers
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Warwick RI 02888
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January 23, 2017

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

In Re: R.I. Distributed Generation Board's Report And Recommendation Regarding The 2017 Renewable Energy Growth Classes, Ceiling Prices And Capacity Targets----Docket No. 4672

Dear Luly,

Please find for filing ten (10) copies of the Division of Public Utilities and Carriers, (the "Division"), January 23, 2017, Memorandum authored by Ms. Carrie Gilbert of Daymark Energy Advisors on behalf of the Division, setting forth their findings and recommendations in response to the Renewable Energy Growth Program-Classes, Revised Ceiling Prices and Capacity Targets for 2017 submitted by the Distributed Generation Board on November 11, 2016 for consideration by the Public Utilities Commission (the "Commission") in its review of the above captioned docket. Similarly, Ms. Gilbert prepared a Memorandum relating to proposed Tariffs and Solicitation and Enrollment Process Rules changes which is attached for filing with ten (10) copies for commission consideration.

The Division submits the referenced Memoranda in lieu of pre-filed testimony and will have its consultant Ms. Gilbert of Daymark Energy Advisors available at hearing.

The Division recognizes as a matter of policy that R.I. Gen. Laws § 39-26.6-22 of the Renewable Energy Growth Program statute controlling the Distributed Generation Board's report and recommendations relating to ceiling prices provides for location-based incentives for distributed generation. Although this statute permits implementation of location-based incentives, it does not require it and National Grid does not currently offer location-based incentives to encourage development of distributed generation in areas of its distribution system that would provide most value to the system.

In general, the absence of location-based prices results in building distributed generation without regard to the location of the resource on the distribution system and potentially wastes

valuable rate-payer dollars that could be used more productively. In addition to location-based incentives, the Division recognizes the importance of aligning distributed generation production with peak times of electric demand. The Division encourages greater investigation into the potential under the statute for time-sensitive incentives.

The Division looks forward to working with the Office of Energy Resources and National Grid and all stakeholders to develop locational and temporal specific incentives to leverage the value of the Renewable Energy Growth Program.

I appreciate your cooperation in this matter.

Very truly yours,

Jon G. Hagopian
Senior Legal Counsel

MEMORANDUM

TO: RHODE ISLAND PUBLIC UTILITIES COMMISSION

FROM: CARRIE GILBERT—DAYMARK ENERGY ADVISORS ON BEHALF OF THE DIVISION OF PUBLIC UTILITIES AND CARRIERS

DATE: JANUARY 23, 2017

SUBJECT: DOCKET NO. 4672 – THE RHODE ISLAND DISTRIBUTED GENERATION BOARD'S REPORT AND RECOMMENDATIONS RELATING TO THE 2017 RENEWABLE ENERGY GROWTH CLASSES, CEILING PRICES, AND CAPACITY TARGETS

In this memo, I summarize the results of our review of the ceiling prices filed by the Rhode Island Distributed Generation Board ("Board") on November 10, 2016. This filing is the fourth report filed by the Board, as prior reports (2011, 2012, and 2013) were filed by the Rhode Island Office of Energy Resources ("OER"). This filing is the third report in support of the Renewable Energy Growth ("REG") Program, which replaced the Distributed Generation Standard Contracts Program ("DGSC") Program that expired on December 31, 2014. Attachments I and II to this memorandum contains a copy of Table III and Table IV from the Board report. Attachment III shows the class allocation recommended for 2017. Overall, I believe that the 2017 prices and class allocations are reasonable. I discuss below the analyses and review that I performed to arrive at this conclusion.

The Rhode Island General Assembly enacted the REG Program (Section 26.6 of Title 39) in June 2014. The REG Program replaced the DGSC program and covers the period from 2015 through 2019. The REG Program has a target to install 160 MW of renewable energy according to a five-year schedule:

- 25 MW in 2015;
- 40 MW in 2016;
- 40 MW in 2017;
- 40 MW in 2018; and
- Remainder to reach 160 MW target in 2019.

The Board's November filing indicated that there were full subscriptions in the large and commercial solar categories in 2016 and expanded interest in the medium solar class as compared to 2015. Additionally, interest in the small scale solar was strong in 2016. There were several applications for wind projects, but no applications for the anaerobic digester or small scale hydropower in 2016. In total

29 MW were procured in the 2016 program, meaning 11 MW will be rolled over to the 2019 procurement cycle.

RENEWABLE ENERGY CLASSES

The renewable energy classes and system size eligibility is the same as 2016 with the exception of an additional small wind class. Table 1 shows the 2017 classes.

Table 1: 2017 Renewable Technology and Eligible Classes

Technology	Eligible System Sizes
Small Solar I (Host Owned)	1-10 kW DC
Small Solar I (3rd party owned/financed)	1-10 kW DC
Small Solar II	11-25 kW DC
Medium Solar	26-250 kW DC
Commercial Solar	251-999 kW DC
Large Solar	1000-5000 kW DC
Small Wind*	10-999 kW DC
Wind I	1500-2999 kW DC
Wind II	3000-5000 kW DC
Wind III	3000-5000 kW DC
Anaerobic Digester I	150-500 kW DC
Anaerobic Digester II	501 -1000 kW DC
Small Scale Hydropower I	10-250 kW DC
Small Scale Hydropower II	251-1000 kW DC

*New Category in 2017

In addition, the Board also established five categories for the Community Remote projects that were established under House Bill 8354 in June 2016. These categories mirror two of the solar categories and three of the wind categories and are included below in Table 2.

Table 2: 2017 Community Remote Renewable Technologies and Classes

Technology	Eligible System Sizes
Commercial Solar	251-999 kW DC
Large Solar	1000-5000 kW DC
Wind I	1500-2999 kW DC
Wind II	3000-5000 kW DC
Wind III	3000-5000 kW DC

CEILING PRICES

The ceiling prices presented in the Board's November report are included as Attachment 1 and Attachment 2 to this memo. Attachment 2 contains the ceiling prices for the Community Remote program.

Ceiling prices for 2017 were generally determined in the same manner—the CREST model was used and inputs were developed using stakeholder input and other research—as were the prices for the 2011 through 2016, but with updated assumptions for certain technologies.

The 2017 ceiling prices include the federal Investment Tax Credit (ITC) or Production Tax Credit (PTC), where applicable:

- All of the solar category ceiling prices include the thirty percent ITC as the full value of this credit is available for projects achieving commercial operation by December 31, 2019;
- The wind ceiling prices include a benefit equal to eighty percent of the full 30 percent ITC, consistent with federal law; and
- The hydropower and anaerobic digester ceiling prices do not include any PTC or ITC benefits as those programs are not available to those technologies.

Prices for Small Solar I and Commercial Solar represent declines since 2016 due to lower estimated installed costs for both classes and an exemption from local property taxes for the residential projects included in Small Solar I. Small Solar II prices have increased due to increases in financing costs. The Large Solar and Medium Solar categories ceiling prices are close to flat from last year.

I reviewed the data sources referenced in the Board's filing and believe that the inputs used to determine the 2017 solar ceiling prices are reasonable. Furthermore, competitive bidding in the larger solar categories should catch cost reductions not captured by the ceiling prices.

The 2017 ceiling prices for wind DG projects are 4 percent higher, 1 percent higher and 0.3 percent lower for the Wind I, Wind II and Wind III classes. The increase in Wind I is due to higher installed costs and the 20 percent reduction to the ITC.

The ceiling prices for Small Scale Hydropower I and II have increased 31 and 29 percent respectively. While some of this increase is due to the elimination of federal PTC benefits for hydropower, much of it is due to the increase in modeled capital costs. The modeled capital costs have almost doubled between 2016 and 2017. The Board memo states that these cost increases are due to increased data and stakeholder input.

The ceiling prices for anaerobic digestion have increased minimally since 2016.

Development of hydropower, wind and anaerobic digester resource types has been quite limited in the past. There may be a number of reasons for this lack of development, including ceiling prices that are too low for development. Thus, I conclude that use of these flat to higher prices for these categories is reasonable given our analysis of input changes and the results of past solicitations. I also acknowledge that these resources are required to submit bids (up to the ceiling price), thus there will be pressure to submit market-competitive bids.

The Board report also includes ceiling prices for the Community Remote Program. These ceiling prices are about 15 percent higher than the corresponding prices for the same technology and size. The increase in costs is largely due to customer acquisition costs.

ALLOCATION PLAN

The Board's recommended allocation is included as Attachment III. The Board allows the anaerobic digester, small hydropower and wind allocations to be reallocated to solar classes in the third enrollment if there is not enough interest in these technologies. I support this flexibility.

In previous years, the Board gave National Grid the discretion to redirect a portion of the Small Solar and Medium solar allocations during any of the enrollment periods. This is not mentioned in the November 10, 2016 memo. I would support this flexibility again this year as is could allow allocation of greater capacity to larger projects where prices are lower and competitively determined.

I find the MW allocation among the resource classes to be generally reasonable. Solar allocations form a large (about 82%) portion of the 40 MW—with 3 MW of that portion determined by statute—but that is the resource type that has featured the most interest (and is able to take advantage of federal tax credits). The remaining allocation of 18% to the other resources is reasonable as a means to promote resource diversity. I also agree with the allocation between fixed-price projects (9.55 MW) and competitively bid projects (30.45 MW).

CLASS CONSOLIDATION RECOMMENDATION

I recommend that Anaerobic Digestion I and II be combined into one Anaerobic Digestion class and Small Scale Hydropower I and II be combined into one Small Scale Hydropower Class. There is no difference in ceiling price between the 2 classes for either technology and the allocations for both technologies cover both classes.

Attachment I

Summary of 2017 Proposed Ceiling Prices

Technology	Ceiling Prices (¢/kWh)
Small Solar I – Host Owned (15 Year Tariff)	34.75
Small Solar I – Host Owned (20 Year Tariff)	30.85
Small Solar I – Third Party Owned/Financed (15-year Tariff)	27.05
Small Solar I – Third Party Owned/Financed (20-year Tariff)	24.05
Small Solar II	27.75
Medium Solar	22.75
Commercial Solar	18.75
Large Solar	15.05
Small Wind	21.45
Wind I	19.45
Wind II	18.25
Wind III	17.35
Anaerobic Digestion I	20.15
Anaerobic Digestion II	20.15
Small Scale Hydropower I	22.45
Small Scale Hydropower II	22.45

Attachment II

Summary of 2017 Proposed Ceiling Prices – Community Remote Program

Technology	Ceiling Prices (¢/kWh)
Commercial Solar	20.65
Large Solar	16.85
Wind I	20.65
Wind II	19.35
Wind III	18.55

Attachment III

Summary of 2017 Allocations

Technology & Eligible Class	kW Allocations
Small Solar I – Host Owned	6,550 kW* DC
Small Solar I – Third Party Owned/Financed	
Small Solar II	
Medium Solar	3,000 kW DC
Commercial Solar	5,000 kW DC
Commercial Solar - Community Remote	3,000 kW DC
Large Solar	12,050 kW DC
Large Solar – Community Remote	3,000 kW DC
Small Wind	0.400 kW DC
Community Remote and Non-Community Remote Wind I, II and III	6,000 MW DC
Anaerobic Digestion I	1,000 kW DC
Anaerobic Digestion II	
Small Scale Hydropower I	
Small Scale Hydropower II	
Total	40,000 kW

***The REG Program statutorily requires that a minimum 3 MW of the annual capacity from the 2015, 2016, 2017 and 2018 REG programs be allocated for the small solar class.