



State of Rhode Island and Providence Plantations

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*Patrick C. Lynch, Attorney General*

January 25, 2008

Ms. Luly Massaro  
Clerk  
Public Utilities Commission  
89 Jefferson Boulevard  
Warwick, RI 02888

**Re: National Grid – Tariff Advice Filing To Amend  
R.I.P.U.C. No. 1078-A – PUC Docket No. 3904**

Dear Ms. Massaro:

I have enclosed a copy of a memorandum on behalf of the Division of Public Utilities and Carriers for filing in the above referenced docket. The memo was prepared with input from and the assistance of Dr. John Stutz of the Tellus Institute in Boston, Massachusetts. As you are aware, Dr. Stutz has been an advisor to the Division on energy matters and has provided testimony to the Commission on several occasions in matters related to National Grid's tariffs and policies. We would appreciate it if you would accept this letter and the enclosed memorandum as the Division's position in this docket.

Thank you for your consideration, and the Chairman for granting the Division an extension of time in which to file these comments.

Sincerely,

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Encl.

Copy to: Service List, Docket 3904

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## MEMORANDUM

TO: Public Utilities Commission  
FROM: Division of Public Utilities and Carriers  
TOPIC: Comments on Net-Metering  
DATE: January 25, 2008

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The purpose of this memorandum is to respond to the proposals related to net-metering made by the Narragansett Electric Company d/b/a National Grid (National Grid or the Company) in its filing on December 3, 2007. The key points are the following:

- Measuring total net-metered load by summing nameplate ratings is a simple, workable procedure. However, with that measurement procedure, National Grid's proposed limit of 5 MW on total net-metered load is too low. A limit of 25 MW is appropriate.
- Two modifications of National Grid's proposals—carrying credits forward for an additional year, and aggregation of separate metered loads for towns that utilize net-metering—are worth a “trial run,” to see how they work in practice.

### **Background on Net-Metering**

National Grid's current “QF Rate” (R.I.P.U.C. 1078-A) provides the terms and conditions under which the Company purchases power from customers designated as qualifying facilities (QFs). The QF Rate contains a provision that allows certain QFs to engage in net-metering, an arrangement in which electricity generated by a customer in excess of their own requirements provides an offset to electricity delivered by the Company.

Recent legislation mandates an increase in the maximum generation capacity eligible for net-metering to one megawatt (1 MW). The maximum is higher (1.65 MW) for renewable energy systems owned by cities and towns in Rhode Island and by the Narragansett Bay Commission. The legislation increases the total amount of net-metering to a minimum of 5 MW. It also allows the Company to recover displaced renewable credits and the distribution portion of delivery charges through a surcharge to all customers. National Grid has revised its QF Rate to reflect the increase in the size of the eligible generating facilities, and has proposed that net-metering be limited to a total of 5 MW of installed capacity. The Company has also added a surcharge that allows it to recover displaced credits and delivery charges as provided in the legislation.

The Company has proposed several revisions to the QF Rate which are not necessary to implement the legislation. In particular, the Company has proposed that the accounting for benefits due to net-metering shift to a uniform, calendar-year basis. Negative meter readings would produce credits that could be used to offset positive reads

in subsequent months of a calendar year. Any balance of credits at the end of a calendar year would be lost.

### **The Limit on Total Net-Metering**

Five MW is the minimum value for total net-metering specified in recent legislation. Based on National Grid's response to Commission Data Request 1-2, current net-metering is about .5 MW. In response to Commission 1-3, the Company estimates additional capacity that will now qualify totals about 1.2 MW. Drawing on a number of sources, People's Power & Light has compiled a list of potential additions that total about 21 MW. With the current and newly qualified capacity, the total is roughly 23 MW. This is close to the 25-MW limit which, the Commission notes, has been the focus of some discussion.

Total net-metering is estimated by summing the nameplate rating of individual projects. This is a simple, workable approach. However, it does not reflect planned or forced outages for maintenance. It treats a group of the non-dispatchable resources (i.e., wind and solar) as if they are all operating at the same time. These are not reasonable assumptions. To estimate the impact of net-metering on the Company's system more accurately, one would need to apply a "diversity factor" to the sum of the nameplate ratings. Thus, for example, if the sum of the nameplate ratings were 23 MW and the diversity factor were .6, the actual impact would be about 14, not 23 MW.

When considering the impact of 25 MW of net-metering, it is important to recognize how small the resulting generation is compared to the total load in RI. In responding to Division Data Request 1-1, the Company assumed that 5 MW of net-metering would result in about 12 GWH of generation. Scaling up, 25 MW would result in about 60 GWH. In 2006, the total usage in RI was about 7,700 GWH. 25 MW produces less than 1 percent of that. Likely monetary impacts are also small. In the response to Division 1-1, the Company estimated the surcharge that would be associated with 5 MW of net-metering. For a residential customer using 500 kWh per month, the cost was 1¢ per month. Scaling up again, for 25 MW it would be 5¢ per month.

The choice of a limit for total net-metering is a matter of judgment. The preceding discussion shows that a 25-MW limit will have very modest impacts on usage and customer surcharges. As National Grid points out in response to Commission 1-1, large renewable projects (i.e., wind projects of 500 kW or more), have considerable lead times for equipment purchases, engineering work, and procurement of proper permits to construct. If the limit is less than the roughly 25 MW needed to cover all projects that might be built, this creates a risk to developers that, when a project started now is completed, there may not be room for it under the limit.

In response to Commission 1-1, National Grid argued that a 5-MW limit is, in its view, unlikely to be exceeded by 2010. Even if that is true, given the modest impacts associated with the 25-MW level, we believe it would be reasonable to set the limit at 25 MW to avoid this risk.

## **Treatment of Benefits Due to Net-Metering**

In the Company's proposals, a key change is the shift to a uniform, calendar-year basis for net-metering. In response to the Commission data requests to interested parties, Portsmouth Abbey, an existing wind generator, suggests that differently-defined annual periods would allow wind and solar generators to make better use of net-metering benefits. As an alternative to that proposal, customers who have a balance of credits at the end of a calendar year might be allowed to roll them forward to the next year. This preserves the uniform period proposed by the Company. As the Company notes in response to Commission 1-10, few net-metered accounts have a positive balance. In any event, a 25-MW limit would not permit a large number of net-metered accounts. Thus, the burden associated with this proposal would be modest.

A second issue, raised in response to the Commission's data requests, concerns aggregation. The Town of Portsmouth has indicated that it plans to purchase and install a wind turbine with nameplate capacity of 1.5 MW. The town expects that it will comply with all the requirements for net-metering. However, with approximately 4.5 million kWh of annual municipal energy consumption and the largest single-meter annual consumption being approximately 1 million kWh, the town is unable to extract the full benefit of net-metering. Portsmouth has suggested considering the loads of towns as one "virtual" (i.e., aggregate) meter. This would also allow towns to utilize their best energy production sites rather than restricting the location to the largest individual metered municipal load, and to realize maximum value from any renewable generation they may install.

The two proposals discussed above—carrying credits forward for an additional year, and virtual metering for towns that qualify for some net-metering—are worth a "trial run," to see how they work in practice. The Commission should adopt them on an interim basis, and require annual reports from the Company on their implementation. To give virtual aggregation a real chance to work, the Commission should establish rules that would allow towns to rely on such aggregation when they make sizing decisions for facilities that qualify for net-metering. One reasonable procedure would be to allow towns to sign up for aggregation based on a net-metered facility coming into operation within a reasonable period of time (say 3 to 4 years). Towns that sign up would be "grandfathered" (i.e., continue to qualify for aggregation), even if that option is "closed" (i.e., no longer available to others).

Aggregation could apply to groupings with multiple metering points other than towns. The proposal to start with towns<sup>1</sup> reflects the legislation which provides for larger net-metered generation for towns than for others.

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<sup>1</sup> Here "towns" is used to refer to all those who qualify for the 1.65 MW limit on renewable systems that qualify for net metering.