Amy G. Rabinowitz
Vice President & Deputy General Counsel

nationalgrid

April 13, 2015

Net Metering and Solar Task Force
Attention: Co-Chairs Angela O'Connor and Daniel Burgess

Re: Net Metering Task Force; Response to Information Request

Dear Ms. O'Connor and Mr. Burgess:

I am attaching National Grid's response to the information request you posed at the March 26, 2015 task force meeting.

This analysis shows the effect and magnitude of shifting costs from customers who are net metering to customers who are not so that National Grid recovers its set revenue allowed by the Department of Public Utilities, and the costs of the Solar Carve-Out program within the Renewable Portfolio Standard (RPS), as regulated by the Department of Energy Resources. It is an analysis of rate impacts, and shifting recovery from one group of customers to another. It is not an analysis of the costs incurred by National Grid to interconnect or support solar distributed generation or any benefits provided by distributed generation. These cost shifts occur regardless of any benefit that solar could provide.

Massachusetts incentivizes solar through a combination of net metering and solar renewable energy credits, or SRECs. The net metering credit includes delivery and retail commodity components. By 2017, we project that the cost shift from net metering customers to ones who are not net metering will exceed $100 million per year. In addition, SREC costs added to retail commodity rates are increasing substantially, nearly quadrupling from 2014 to 2015, and then will remain above $200 million per year through 2020. These costs are primarily borne by customers who do not net meter. Customers who do net meter also benefit from the increase in the commodity rate related to SRECs, in addition to the actual SREC. In total, we estimate that our non-net metering customers will pay nearly $2 billion from 2014 to 2020 in support of the Commonwealth's solar programs, adding materially to customer rates and total bills. A summary table of the costs by year is shown below.

Costs in millions	2014	2015	2016	2017	2018	2019	2020
Net Metering	$34.6	$71.1	$84.5	$102.1	$108.5	$110.9	$112.1
SREC I	$52.1	$207.6	$174.8	$121.6	$111.0	$107.0	$103.5
SREC II	$6.5	$20.8	$58.9	$87.1	$98.7	$107.2	$112.5
Total	$93.3	$299.5	$318.2	$310.7	$318.2	$325.1	$328.0

40 Sylvan Road, Waltham, MA 02451
T: 781.907.1830 ■ F: 781.296.8092 ■ amy.rabinowitz@nationalgrid.com ■ www.nationalgrid.com

Importantly, generation that is exported for virtual net metering (VNM) creates a higher total cost that is shifted to other customers than generation used on-site. The exported energy from VNM systems is provided a credit for commodity at the full basic service rate, along with other rates appropriate to each system's rate class and net metering class, which is then transferred to a customer at a different location. The customer using the credit in another location, however, is still being provided energy by the utility or another energy supplier. For VNM participants receiving basic service, for example, the Company must pay its suppliers to serve those customers, but is crediting those customers for the energy generated at another location. The exported energy from systems greater than 60 kW is settled with ISO-NE at the wholesale energy rate (see Line 20 of "Net Metering Costs"), the proceeds of which are used to reduce the total cost of net metering. However, the difference between the wholesale rate and the basic service rate, which includes value for capacity, RPS compliance and ancillary services, is then collected from all customers as part of the basic service cost reconciliation mechanism. This is what accounts for a large share of the higher cost associated with virtual net metering generation.

Thank you for your time and attention to this matter.

Very truly yours,

Amy G. Rabinowitz

Amy G. Rabinowitz

Massachusetts Electric Company and Nantucket Electric Company
d/b/a National Grid
Information Request of Net Metering and Solar Task Force
Issued April 2, 2015

Information Request:

Provide a projection of the total cost for solar generation support programs starting in **2014 and extending to 2020** showing the cost shift from net metering credits related to distribution, commodity and other rate components, and the total actual and projected SREC costs in each year. Provide these costs - both as a total dollar amount, on an annual basis and over the whole time period per utility, and also the annual and total cost for each type of customer for each utility (e.g., residential, low income, commercial and industrial, etc.).

Please coordinate with each other to make sure you are using consistent assumptions, or if they are different, please explain why they need to be. In addition, please state all assumptions and provide calculations in working Excel spreadsheet format. Thank you for providing this information as soon as possible.

National Grid Response:

Please see the attached Excel spreadsheet.

These projections assume that distributed generation systems using the net metering caps of 5% public and 4% private, which are today fully subscribed in National Grid service territory, are fully interconnected by mid-2016, and that the caps are not raised beyond those levels. Additional net metered systems that are not subject to the caps will continue to be added to National Grid's system in subsequent years (see tab "Net Metering Costs", Line 2). National Grid collaborated with Eversource to use a common projection for the addition of statewide solar installed under the Solar Carve-Out programs and the compliance obligations for these programs (shown on "SREC Costs", Lines 1-3 and 6-7). National Grid and Eversource also used similar estimates of SREC values, using market values for 2014, 2015 and 2016, and then an average of the Alternative Compliance Payment and the Clearinghouse Auction Floor Price for 2017-2020 (Lines 4-5).

For net metering costs, National Grid assessed the amount of net metered generation connected to its distribution system in each month of 2014, and the amount of exported net metering generation from these systems as reported by the billing system, such as from virtual net metering systems, which have very little on site load. The difference is the estimate of net metered system generation that is used on-site (i.e., coincident with a customer's load), and this percentage is expected to decrease in the near term due to the increase in virtual net metering systems in the Company's interconnection and net metering queues. Amounts used on-site are then multiplied by the distribution rate to estimate the displaced distribution revenues, shown on

"Net Metering Costs," Line 12. Amounts that are exported are multiplied by each rate component, each shown individually on "Net Metering Costs," Lines 13-16.

Solar Carve-Out costs reflect costs for all distribution customers as reflected in commodity rates, as market costs for SRECs are similar for all load serving entities. The utilities used the same estimated compliance obligations and pace of installation of qualifying SREC II systems, set to allow the 1600 MW goal to be met in 2020, similar to the pace of installation proposed by the Task Force's consultants on March 26, 2014. Based on this projection, the Solar Carve-Out will add approximately one cent per kilowatt-hour to commodity rates each year from 2015 to 2020, with costs by customer class shown on "SREC Costs," Lines 20-22.