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STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 19-0855-RULE

Proposed revisions to Vermont Public Utility Commission Rule 5.100	

DEPARTMENT OF PUBLIC SERVICE REPLY COMMENTS TO THE PUBLIC UTILITY COMMISSION'S REQUEST FOR ADDITIONAL INFORMATION

On April 16, 2019, the Vermont Public Utility Commission ("Commission") opened this rulemaking proceeding to review Commission Rule 5.100, which governs the construction and operation of net-metering systems under 30 V.S.A. § 8010 and some other small renewable energy plants pursuant to 30 V.S.A. § 8007. In an order issued August 22, 2019, the Commission requested additional information to assist in this proceeding and the parties supplied answers to the Commission on November 1, 2019. The Department has reviewed the comments filed and offers the following reply.

In general, the Department reaffirms its previous recommendations, including that workshops are warranted for the larger issues presented in this rulemaking, such as interconnection, joint letter preferred sites, and compensation. The Department also wishes to correct its recommendation, in "Attachment B," that changes to Hydroelectric Generator Manufacturer and Model only need review prior to CPG issuance when dynamic/stability simulations are required. Rather, review of such a change is needed in every instance to assess short circuit current contributions.

Clarifications of the Department's November 1, 2019 Filing:

In response to several stakeholder questions regarding the Department's straw proposal on a net-metering compensation structure, the Department provides the following clarifications.

First, the Department emphasizes that it developed the straw proposal to provide a starting point for discussion on the compensation that should be paid for

generation from net-metering systems. The straw proposal was designed to better reflect the value of small-scale distributed generation from a power supply perspective, not to state definitively what the compensation ought to be. The straw proposal would send price signals designed to better align generation with consumption. It is becoming increasingly important with the proliferation of beneficial electrification (e.g., electric vehicles and heat pumps) and intermittent generation to optimize system use and minimize costs. However, the Department is aware that the straw proposal does not account for other potential value provided by net-metering, such as economic development, customer engagement, etc. Therefore, the question before the Commission is the extent to which ratepayers should compensate net-metering systems for those values and the pace at which changes to the compensation structure should be implemented. Consequently, the Department believes that continued discussion to find an appropriate compensation structure is necessary and should also include consideration of whether changes to Commission Rule 5.100 and 30 V.S.A. Ch. 89 are necessary.

Second, any changes to net-metering compensation would only apply to new development and would not change the payments for existing net-metering customers.

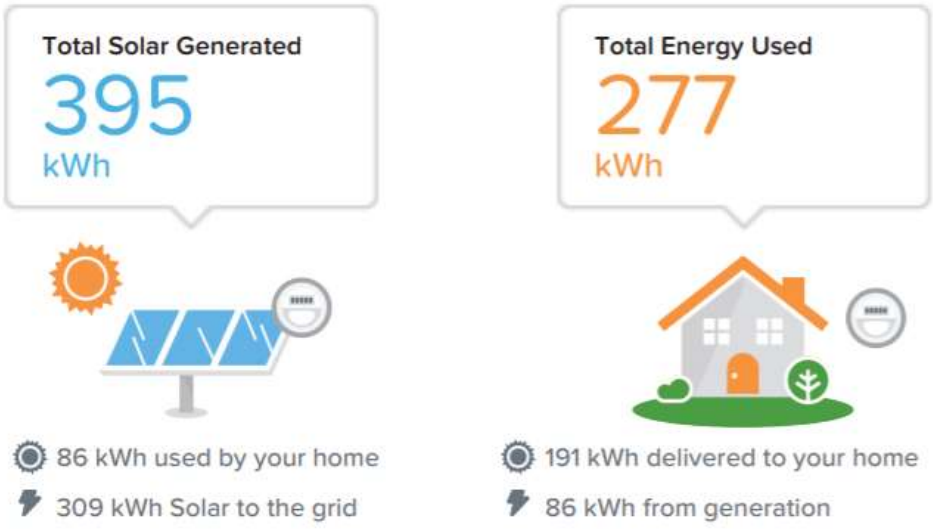
Third, the Department believes it would be beneficial to clarify the practical application of its straw compensation structure, in order to facilitate further discussion. The Department provides an explanation of the straw compensation mechanism below, followed by a tangible example for a net-metering system in Green Mountain Power Corporation's ("GMP") service area.

The Department's straw proposal would compensate net-metering customers for the system and renewable benefits[1] provided by the generation from the installed system — while also minimizing cost shifts between participating and

[1] This includes the system's contribution toward meeting Vermont's Renewable Energy Standard ("RES").

non-participating customers. Again, the Department acknowledges that the net-metering program provides benefits that are not captured by an avoided cost approach – including jobs, taxes, and savings for schools and other participating institutions. However, including such societal benefits in the compensation paid to a generation resource, such as net-metering, sends price signals which create barriers to reducing carbon in the sectors that require the greatest attention: transportation and thermal.

Based on the September bill for an actual GMP net-metering customer, the Department's straw proposal would work as follows:



Under the Department's straw proposal, the 86 kWh of generation used on-site would be a reduction in the bill, "compensated" at retail because the net-metering customer is avoiding that portion of the electric bill. The net-metering customer would pay the retail rate for the 191 kWh of consumption that was not offset by net-metered generation during that month, (191 kWh * $0.16446 = $31.41). The customer would also receive a credit for the 309 kWh solar exported to the grid,

which would be paid at the avoided cost[2] of 9.2 cents/kWh, for a credit of $28.43. The customer's total bill would be $2.98, not including the customer charge or other non-bypassable charges. Under the existing compensation structure, assuming the system received a certificate of public good on July 2, 2019, the net-metering customer would receive a bill credit of $ 26.09, ((118 kWh * statewide blended residential rate, currently $0.15417/kWh) + (395 kWh * siting adjustor, currently $0.01/kWh) + (395 * REC adjustor, currently $0.01/kWh)).[3]

As noted in the Department's November 1 comments, excess net-metered generation that is exported to the grid has the same value as a merchant generation solar project and is generally exported to the system during times when energy on the New England grid is both lower priced and has a lower emissions profile, due in part to the contributions of operating solar installations. The straw proposal would compensate excess generation to reflect the value to the system, which is lower than the retail-rate based compensation it currently receives.

In addition, by reflecting the greater value of generation that is offsetting consumption, the straw proposal would provide a better price signal to net-metering customers and encourage actions that coordinate usage with generation. This could be as simple as putting a basement dehumidifier on a timer so it only runs during the day, or it could be as technologically sophisticated as installing a battery storage system and using it in self-supply mode. The Department's straw proposal would encourage a net-metering customer with such a battery to charge it during the day when consumption is low, and generation is high, and then discharge at night when the customer is home and using more energy.

Net Metering, Renewable Energy Standard, and Climate Change

The Department recognizes the crucial role that distributed generation plays

[2] The avoided cost represents a ten-year levelized forecast of wholesale energy and capacity, REC prices, and regional network service charge reductions.
[3] The calculation is based on the instructions for Energy measurement for Net-metering Systems in Section 5.126 of the net-metering rule.

in helping Vermont meet its renewable energy and greenhouse gas goals. However, the Department is also mindful of the statutory directive for least-cost pathways to meet those goals, and the need for sustainable programmatic tools. Vermont's RES sets forth the amount of renewable energy that must be procured by Vermont's electric distribution utilities. Net-metering resources can provide renewable energy credits that are eligible for Tier 2 of the RES. Nonetheless, Tier 2 eligibility is not limited to net-metering and can be met through other, lower cost, renewable sources. Therefore, it is incorrect to claim that reducing the amount of new net-metering installations prevents progress toward Vermont's renewable energy requirements and goals. At the current compensation rates, using net-metering as the primary means to meet Vermont's renewable energy requirements and goals is not the least-cost pathway for the State and its ratepayers.

The Commission addressed the appropriate role of net-metering in meeting the RES requirements in Case No. 18-0086-INV, *In re: biennial update of the net-metering program*:

> The CEP and Vermont's Renewable Energy Standard ("RES") create an explicit framework for distributed energy to contribute to Vermont's power supply. Net-metering is only one of several ways to develop solar and other types of local renewable energy to meet the RES requirements, but because of the substantial financial incentives that have been available, net-metering has played the most prominent role in the expansion of Vermont's renewable energy portfolio. The amount of net-metering commissioned in 2016 and 2017, if continued, would exceed the level necessary to meet Tier II of the RES. However, more cost-effective sources of solar and other types of local renewable power are available to meet the RES requirements and the goals of the CEP, which recommends planning "carefully to meet all three tiers of the RES in a least-cost manner" and to "strive to lower both energy bills and electric rates."[4]

[4] *In re: biennial update of the net-metering program*, Case No. 18-0086-INV, Order of 5/1/18 at 3 (footnotes omitted).

As noted by both the Commission in the above-cited Order, and the Department in the 2016 Comprehensive Energy Plan, the Vermont General Assembly determined the appropriate amount of in-state distributed generation that must be deployed to meet statutory renewable requirements. Presumably, the General Assembly considered the costs and benefits of distributed generation when crafting the RES requirements.

The transportation and thermal sectors account for 67% of carbon emissions in Vermont. The RES sets forth a clear pathway for reducing carbon in the electric sector, which represents 10% of carbon emissions[5] in Vermont. The transition to a lower carbon future will be significantly more difficult in transportation and heating because change will require voluntary actions by individuals rather than mandated actions by regulated utilities. Encouraging customers to adopt electric vehicles and cold climate heat pumps will require several factors, including model availability and education about the options available.

However, affordability will also be a significant driver of customer adoption of electrified technologies. Just as higher gasoline prices drive consumer behavior regarding vehicle choice, the cost of electricity (the fuel source for electric vehicles and heat pumps) will also influence customers' decisions to adopt these emerging technologies. For that reason, the cost-effectiveness of resources used to meet RES requirements needs to be considered if the State wishes to achieve its overall carbon reduction goals.

[5] VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION: AIR QUALITY AND CLIMATE DIVISION, *Vermont Greenhouse Gas Emissions Inventory Update: Brief 1990 – 2015*, June 2018, at 6.

Thank you for the opportunity to comment on this matter, please do not hesitate to contact me with any questions.

Dated at Montpelier, Vermont, this 6th day of December 2019.

VERMONT DEPARTMENT OF PUBLIC SERVICE

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