NH Public Utilities Commission
Docket No. DE 22-060
Record Request – Set 1

Received: April 24, 2024 Date of Response: July 8, 2024
Request Number: RR-F Witness: Department of Energy

Request:

How do the prior studies completed in dockets related to net-metering support the parties' positions in this docket?

Response:

Puc Order 26,029, establishing the alternative net metering tariff in place currently, suggested more New Hampshire-specific research was needed to inform tariff structures and directed a number of studies to inform the next tariff review. These included the New Hampshire Locational Value of Distributed Generation (NH LVDG) study as well as the New Hampshire Value of Distributed Energy Resources (NH VDER) study. The Department addressed the NH LVDG study and NH VDER study in testimony.[1]

[1] See New Hampshire Department of Energy Testimony of Elizabeth R. Nixon, Mark P. Toscano and Deandra M. Perruccio, starting on Bates page 9, https://www.puc.nh.gov/Regulatory/Docketbk/2022/22-060/TESTIMONY/22-060_2023-12-06_NHDOE_TESTIMONY-NIXON-TOSCANO-PERRUCCIO.PDF

NH Public Utilities Commission
Docket No. DE 22-060
Record Request – Set 1

Received: April 24, 2024 Date of Response: July 8, 2024
Request Number: RR-G Witness: Department of Energy

Request:

Is the utility default service rate the appropriate rate to compensate generation for net metering parties? If so, why?

Response:

The default service rates represent the cost of wholesale energy, capacity costs, other ISO-NE costs such as ancillary services, RPS compliance costs, plus supplier overhead and profit, and risk management. These costs are straight pass-throughs for the utilities. The default service rate is for the cost of electricity supply only, and does not include transmission and distribution costs, or non-by-passable charges such as authorized stranded costs and the system benefits charge (SBC). Please note that under the alternative net metering tariff currently in place, small customer-generators (systems up to and including 100 kW) receive transmission and distribution compensation as well, as described further in Response RR-J.

The default service rates are what the utilities will incur to purchase electricity supply for their customers. Each kWh of energy that is generated and used by a customer-generator (or other local distribution system customer) represents a kWh of energy that will not be purchased from the default energy service provider.

At current penetration rates, the costs in administration and billing system changes needed to parse out any of the values underlying these rates is likely higher than any costs that could be saved, but at high levels of penetration further review of the compensation structure may be necessary.

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Docket No. DE 22-060
Record Request – Set 1

Received: April 24, 2024 Date of Response: July 8, 2024
Request Number: RR-H Witness: Department of Energy

Request:

How does the avoided cost analysis in the VDER study support each party's position on the appropriate compensation mechanism in the net metering tariff?

Response:

The New Hampshire Value of Distributed Generation (VDER)[2] study was directed by the Commission in Order 26,029,[3] because much of the data in the proceeding (DE 16-576) spoke to other states or jurisdictions which may not be applicable or easily transferable to the New Hampshire landscape. There was not sufficient New Hampshire-specific information to inform tariffs. This order provided directive on a study scope which was further developed through stakeholder process and approved by the Commission through Order 26,316.[4] The Department addressed the NH VDER study in its testimony.[5]

[2] Study, appendices and updates available online at: The Value of Distributed Energy Resources Study | NH Department of Energy
[3] NHPUC Order 26,029, available online at: 26029e.pdf (nh.gov)
[4] Order 26,316, Item 283 in NHPUC docket DE 16-576 available online at: 16-576_2019-12-18_ORDER_26316.PDF (nh.gov)
[5] See New Hampshire Department of Energy Testimony of Elizabeth R. Nixon, Mark P. Toscano and Deandra M. Perruccio, starting on Bates page 11, https://www.puc.nh.gov/Regulatory/Docketbk/2022/22-060/TESTIMONY/22-060_2023-12-06_NHDOE_TESTIMONY-NIXON-TOSCANO-PERRUCCIO.PDF

Received: April 24, 2024 Date of Response: July 8, 2024
Request Number: RR-J Witness: Department of Energy

Request:

Is the compensation for customer generators different than municipal hosts or merchant power generators? If so, explain the differences.

Response:

Compensation for customer generators is based on facility capacity with small customer-generators being up to 100kW and large customer-generators being over 100kW to1MW. Group hosts are a type of customer-generator and are compensated based on the size of their facility as large or small customer-generators. Municipal group hosts are considered large customer-generators as specified by 362-A:9 XVI(b), and therefore the compensation value for these hosts is as large customer-generators. Merchant power generators, to the extent they exist, either sell into the ISO NE wholesale market, or have other private contractual arrangements. Small renewable generation systems such as those on homes or small businesses would be unlikely to participate in markets as merchant generators.

Merchant Power Generation Compensation

Merchant power generators, to the extent they exist, either sell into the ISO NE wholesale market, or have other private contractual arrangements.

Net Energy Metering (NEM) Customer-generator Compensation

A customer-generator as defined by RSA 362-A:9 is a utility customer who offsets behind-the-meter load onsite and is compensated for excess generation supplied to the distribution system through a set tariff structure as outlined in RSA 362-A:9 as well as Commission Order 26,029, subsequent Orders, and Puc 900. A basic overview of the net energy metering (NEM) tariff structure is available on the Department website[6] and outlined in Puc 900.
Customer-generators interconnecting up until September 1, 2017, are on the "standard" NEM tariff (unless they have elected to change to the "alternative" tariff). Customer-generators connecting in the interconnection queue after September 1, 2017, are on the "alternative" net metering tariff, which is the tariff currently in place, and we will speak to the compensation for those customer-generators here.

All customer-generators are billed for electricity under the same rate schedule that such customer-generator would be billed if it were a non-net metering utility customer. n. All customer-generators pay in full all charges that are not based on kilowatt-hours, including customer charges and any demand charges based on customer rate class. Credits for net excess generation under the alternative tariff are monetary credits calculated each billing cycle using the

[6] Net Metering 2023 Tariff Overview: Microsoft PowerPoint - Net Metering Tariff 2023 Overview (nh.gov)

tariff regulations outlined below (they are not kWh credits). These monetary credits stay on a customer-generator's account and may be used in future months or may be issued as a check annually or on a quarterly basis if the credit amount meets minimum requirements of $100 annually or $25 in a calendar quarter as outlined in 362-A:9, V-a.

The compensation for customer-generators outlined below is for utility default service customers specifically. Customer-generators (both large and small) on competitive supply do not receive any compensation for energy service (supply) from the distribution utility and are advised to contact their competitive supplier regarding any such compensation. Per 362-A:9, II and Puc 903.02(h), competitive electricity suppliers registered under RSA 374-F:7 and Puc 2000, as well as municipal or county aggregators under RSA 53-E may voluntarily determine the terms, conditions, and prices under which they shall agree to provide electric energy supply to, and purchase net electric energy output from, customer-generators.

Small customer-generator compensation

Small customer-generators (facilities less than or equal to 100 kW) interconnecting after September 1, 2017, are on the alternative net metering tariff. Non-bypassable charges are assessed based on the full amount of electricity received from the distribution system without any netting of electricity exports over the billing period. For small customer-generators, charges or compensation are then applied based on net electric usage or exports over the billing period for energy service, transmission, and distribution.

Net import compensation *(import more power than exported over billing cycle)**:*** the total kWh billed, with the exception of non-bypassable charges, is reduced by the total kWh exported by the customer-generator over the billing cycle.

Net export compensation *(export more power than imported over billing cycle)**:*** small customer-generators on default service are compensated for net excess generation exported to the grid at 100% of the energy service rate, 100% of the transmission rate, 25% of the distribution rate and 0% for non-bypassable charges.

Large customer-generator compensation

Large customer-generators (facilities greater than 100kW up to and including 1 MW), as a first point, according to Puc 903.02(d) must use at least 20% of the power generated at their facility behind-the-meter, or must register for group net metering and meet all group registration and reporting requirements in order to participate in NEM and receive NEM tariff compensation. These requirements are discussed in more detail in response L below. RSA 362-A:9 XVI(b) directs that, until tariffs are adopted that expressly apply to customer-generators over 1 MW, the provisions applicable to large customer-generators shall be applicable to customer-generators of greater than one megawatt otherwise authorized by statute. This means that municipal group hosts, which may net meter systems from 1-5 MW if they meet all applicable municipal group requirements, are currently considered large customer-generators.

Net import compensation *(import more power than exported over billing cycle)**:*** The customer-generator is billed for all applicable charges on all kilowatt-hours imported as metered instantaneously per Puc 903.02(f)2, less a credit on default service charges only, equal to the metered electricity exported to the distribution system over the billing period.

Net exports compensation *(export more power than imported over billing cycle)**:*** The distribution utility uses zero kilowatt-hours when calculating all default service(supply) charges. The customer-generator is billed for all other applicable charges including transmission and distribution on all imported kilowatt-hours. These customers then receive a monetary bill credit for any surplus electricity exported, calculated at 100% of the default service rate only. Again, as outlined above, this is only for default service customers.
For generators over a specific size, utilities also enter these generators into wholesale markets for example for capacity or other services as passive resources and uses these revenues to offset supply costs.

Group Net Metering Compensation

Group hosts are compensated based on the host facility size as either large or small customer-generators. As large or small customer-generators, group hosts must also be on utility default service in order to receive the energy supply portion of NEM compensation. Municipal group hosts are considered large customer-generators as specified by 362-A:9 XVI(b), and therefore the compensation value for these hosts is as large customer-generators. As discussed above, because municipal group hosts are large customer-generators, they also must be on default service to receive compensation for energy supply. While the monetary crediting methods and values are the same, payment options differ for single customer-generators and GNM groups, group net metering payment options are outlined in more detail in response L.

Municipal Host Compensation

Legislation creating a Municipal Host group type was passed in 2021[7]. As outlined in RSA 362-A:1-a, II-c, a "Municipal host" means a customer generator with a total peak generating capacity of greater than one megawatt and less than 5 megawatts used to offset the electricity requirements of a group consisting exclusively of one or more customers who are political subdivisions, provided that all customers are located within the same utility franchise service territory. A municipal host may be owned by either a public or private entity. For this definition, "political subdivision" means the state of New Hampshire or any city, town, county, school district, chartered public school, village district, school administrative unit, or any district or entity created for a special purpose administered or funded by any of the above-named governmental units.

These groups are required to meet all requirements of group net metering in order to register as a group and must report annually just as all group net metering groups. Municipal group hosts are

[7] 2021 House Bill 315

considered large customer-generators as specified by 362-A:9 XVI(b), and therefore the compensation value for these hosts is as large customer-generators.

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Record Request – Set 1

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Request Number: RR-K Witness: Department of Energy

Request:

For Community Aggregation customers participating in net metering, please describe the dollar flow from the incumbent distribution utility to a net metering customer over a month when i) that customer consumes more than it produces; and ii) when the customer produces more than what it consumes.

Please provide specific examples to illustrate the differences.

Response:

Administration of net metering for distribution utility customers using community aggregation for energy service is currently the subject of a number of open investigations and proceedings at the Commission. At this time, a customer generator enrolled in a community aggregation with negative usage, or net exports, would not receive a credit for the energy portion of the bill. Small customer-generators would receive 100% of transmission and 25% of distribution for net exported power but would not receive any credit for energy supply. Billing options to allow customer generators enrolled in a community aggregation program to receive a monetary credit from the community aggregation program for any net exports are the subject of current proceeding(s) before the Commission. The Department can provide a basic overview understanding of the existing law and rules as related to customer-generators that are not on default energy service(supply), as well as the practice for existing competitive supply customer-generators.

Non-default Energy Service Customer Generators

- As outlined in RSA 362-A:9, II, Puc 900 rules, and associated tariffs, the utility is not responsible for compensating for the supply portion of any net excess generation for a customer-generator that is not on default energy supply with the utility. Per 362-A:9, II and Puc 903.02(h), competitive electricity suppliers registered under RSA 374-F:7 and Puc 2000, as well as municipal or county aggregators under RSA 53-E may voluntarily determine the terms, conditions, and prices under which they shall agree to provide electric energy supply to, and purchase net electric energy output from, customer-generators.

- This provision precluding energy supply compensation by the utility for such customer-generators does not change their definition as eligible customer-generators under RSA 362-A:1-a, II-b nor prevent them from participating in net metering. It does prevent them from receiving the above-mentioned supply compensation from the distribution utility.

- While the statute enables competitive suppliers and now community aggregators to offer energy supply compensation for net energy metering for their supply customers, this has not yet been implemented through utilities in practice as no competitive suppliers to date

have chosen to offer any kind of compensation for net generation for net metered customers. With the enabling of community aggregation, this election is of interest to those suppliers, and implementation is the subject of current proceedings.

Please provide specific examples to illustrate the differences.

As outlined above, while statute may enable customer-generators that are part of community aggregations to continue participation in net metering subject to the terms, conditions and prices for energy supply compensation as outlined by the aggregation, the implementation of such a tariff arrangement is ongoing, and customer-generators on community aggregation may not currently receive compensation for energy supply. The money flow for small customer-generators from the distribution utility is described above**.**

NH Public Utilities Commission
Docket No. DE 22-060
Record Request – Set 1

Received: April 24, 2024 Date of Response: July 8, 2024
Request Number: RR-L Witness: Department of Energy

Request:

Consider a customer generator that is part of group net metering, and the group consumes more electricity than it produces over a month. Compare how that generator is compensated relative to a customer that is not part of group net metering. Assume that the generator has the same production in both situations.

Response:

Response clarifications

This response is based on RSA 362-A:1-a, 362-A:9 and Puc 900.

1. The following description applies for customer-generators under the current alternative net metering tariff which went into effect September 1, 2017. It does not review standard net metering customers (NEM 1).
2. The request refers to a single month example, however, it is important to consider the compensation for group net metering (GNM) groups over an annual period because payment requirements are based on annual review and adjustment in a calendar year. We will therefore provide an overview including these annual considerations.
3. Because of the tariff structure, group load is not reviewed on a monthly basis in relation to group compensation. Total group load is reviewed once per year via an annual report submitted by hosts to the Department and utility on April 1 of each year covering the previous calendar year. So, there is not an instance in a given month where the group load is considered directly against the facility generation.
4. We will describe how a group host customer-generator or a single customer-generator is compensated for excess generation. We will not review compensation for a customer-generator acting as a group member as those instances are rare exceptions enabled only for municipal group members.

When a customer-generator must act as a group

Small customer-generators are not required to register as a group, although they can choose to do so. We provide an overview of how compensation for net excess generation works for a small single customer-generator and small group host below.

By rule, large customer-generators must either: 1) Use 20% or more of their generation behind-the-meter; or 2) Register as a group host in order to participate in net metering. No facility over 100 kW may participate as a single –customer-generator in net metering while exporting all generation directly to the grid. This is to clarify that large customer-generators, unless using

significant load at their property, do not have a choice and must register for group net metering and meet all applicable requirements in order to receive net metering tariff compensation. We describe how compensation works for a large group host or a large single customer-generator consuming 20% of its generation behind-the-meter below.

Compensation amount in a given month:

- For customer-generators on the alternative net metering tariff (September 1, 2017, and forward) the compensation is a monetary credit that is the exact same for single customer-generators as it is for group hosts. Customer-generators do not receive additional value for registering as a group.[8]
- The monetary credit for either a single-customer generator or group host for large or small customer-generators is calculated by multiplying the total net exported power at the host's site (the group members usage is not taken into consideration at this point) based on the tariff netting requirements, and then multiplied by the applicable tariff rates for the customer-generator size.

Compensation method in a given month:

- While there is no difference in compensation value for group hosts and members vs a single customer-generator, the differences between acting as a group host and a single customer-generator are related to payment options. Hosts and/or group members receive payment on a monthly basis as compared to once per year or per quarter for single-customer generators via a check to the host or on-bill crediting of members, depending on requirements and the choice of the group. Low-Moderate Income (LMI) Community Solar Project groups are required to use on-bill crediting. The allocation of payments or credits to group members is determined based on an agreement between the host and the group members.

Compensation annual review

a) The host is responsible for meeting a number of requirements outlined in 362-A:9, XIV and Puc 909 in order to register as a group and must complete annual reporting, which may impact their compensation in a given year.
    i) Registration requirements include that the host must confirm the group load will meet or exceed the facility generation on an annual basis. The group host and members must "use" (i.e., the group + host load will cover) all of the power generated by the system on an annual basis.

[8] With the exception of qualifying Low-Moderate Income Community Solar Projects as defined in RSA 362-F. These groups do receive an additional $0.025/kWh for net excess generation as required by RSA 362-A:9, XIV (c)(1).

b) Once registered, ***if the group does not meet load-generation requirements in a given year, the host will not receive the net metering rate for any 'over-generation' which occurred in that year.***

i) By April 1st on an annual basis, the host must file a report documenting the total group load and the total actual generation of the facility for the previous calendar year (January-December).

ii) If the total group (host+ member) load is less than the total generation of the facility for the year, the utility shall pay only ***the avoided cost rate*** for any kWh over the load of the group for the year.

iii) Because payments are made to a group each month, these payments at the applicable NEM rate will have already occurred, therefore, if an annual report shows more generation in the calendar year than total load of the host and members in that same calendar year, the utility is required to issue to the host a notice of payment due for the difference between the net metering rate and the avoided cost rate for those "overproduction" kWh.

iv) These requirements are outlined through RSA 362-A:9, XIV,(c), (2) and Puc 909.08 and 909.10.

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Record Request – Set 1

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Request Number: RR-N Witness: Department of Energy

Request:

Why would the net metering tariff be different for sub 100 kW generators, 100 kW-1 MW generators, and 1-5 MW generators?

Response:

Determining the benefits of DER (generators) is complex and varies over time for many reasons. However, the benefits are primarily derived/determined based on location on the distribution system, the conditions of the distribution system, energy (and capacity) pricing, avoided costs, and the DERs time/hours of operation. In the Department's testimony, we recommend that appropriate TOU rates be explored and implemented. Some current TOU rates may be appropriate to offer to DG customers now. A compensation rate with TOU periods could provide higher compensation at the high peak periods and lower compensation during the lower value hours or off-peak periods. Where no appropriate TOU rate exists, we propose that the utilities be required to work with stakeholders to provide TOU rate options.

Small Customer-Generator (Less than or equal to 100 kW)

Small Customer Generators (less than or equal 100 kW) are often located in denser parts of the distribution system. Moreover, most of the generation is typically consumed by the customer. Further, virtually all the generation is consumed locally (by other utility customers), thereby reducing the need to transport electricity from remote sources and minimizing the need to increase local distribution system infrastructure (lines, transformers, sub-stations). NEM tariffs sometimes take this into account and provide greater incentive levels to small DER.

Large Customer-Generator (Greater than 100 kW and up to and including 1 MW)

Large Customer-Generators (Greater than 100 kW and up to and including 1 MW) are more often located in more robust locations on the distribution system, closer to main transformers, sub-substations, and generation, providing lesser value for avoided costs.

Municipal Hosts (1 – 5 MW)

Puc 900 rules were developed based on customer-generation up to and including 1 MW. The current title is as follows: "CHAPTER Puc 900 NET METERING FOR CUSTOMER-OWNED RENEWABLE ENERGY GENERATION RESOURCES OF 1,000 KILOWATTS OR LESS" The 1 – 5 MW generator category for net metering is relatively new, resulting from Municipal Host legislation, enacted in August 2021. See RSA 362-A:1-a, II-a and II-b.