

September 14, 2016

PUBLIC UTILITIES COMMISSION  
Amendments to Net Energy Billing Rule  
(Chapter 313)

NOTICE OF RULEMAKING

VANNOY, Chairman; McLEAN and WILLIAMSON, Commissioners

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## I. SUMMARY

Through this Notice, the Commission initiates a rulemaking proceeding to consider several proposed amendments to its net energy billing rule (Chapter 313). The Commission undertakes this review pursuant to section 3(J) of Chapter 313, which requires Commission review upon notification from a transmission and distribution (T&D) utility that the cumulative capacity of generating facilities participating in net energy billing (NEB) has reached one percent of the T&D utility's peak demand. First, the proposed amended rule increases the maximum size for an eligible generating facility from 660 kilowatts to one megawatt. Second, the proposed amended rule would gradually reduce the T&D portion of a customer's bill which is eligible to be netted against the generating facility's output, while netting of the supply portion of the bill will remain unchanged. Third, the proposed amended rule grandfathers existing NEB customers for a fifteen year period. Fourth, the proposed amended rule adds specific provisions that allow and provide consumer protections for community net energy billing and net energy billing leases. As to the phase down approach highlighted in point two above, it is based on an effort to reduce, and ultimately eliminate, T&D costs that are shifted from NEB customers to non-NEB customers under the structure in the existing rule. The gradual reduction in netting for purposes of the T&D portion of the bill is in recognition of the declining costs of renewable technologies, in particular solar photovoltaic (PV) technology.

## II. BACKGROUND

### A. Net Energy Billing Rules

Chapter 313 of the Commission's rules governs NEB in Maine. NEB is a metering and billing mechanism that is generally used to promote the development and operation of smaller renewable generation facilities. Under Chapter 313, customers that own or have an interest in an eligible generation facility are billed by the T&D utility on the basis of "net energy" over a billing period. Net energy is defined in the rule as the difference between the kWhs a customer consumes and the kWhs produced by that customer's generating facility over a billing period. Under Maine's NEB rules, excess generation from a customer's generating facility may be used as a kWh credit to offset that customer's electricity usage in a future billing period when the customer's facility did

not generate enough to offset the customer's electricity usage. The excess kWh credits can be used to offset customer usage over a twelve month period.<sup>1</sup>

The NEB mechanism results in a shift of T&D utility revenue from NEB customers to non-NEB customers and corresponding impacts on the rates of non-NEB customers. For this reason, Chapter 313 contains a provision for the review of the NEB rules.<sup>2</sup> Section 3 (J) of Chapter 313 specifies:

**Commission Review.** A transmission and distribution utility shall notify the Commission if the cumulative capacity of generating facilities subject to the provisions of this Chapter reaches 1.0 percent of its peak demand. Upon notification, the Commission will review this Chapter to determine whether net energy billing pursuant to this Chapter should continue or be modified.

B. Commission Inquiry

On January 14, 2016, Central Maine Power Company (CMP) filed a letter stating that, at the end of calendar year 2015, the cumulative capacity of the generating facilities for which CMP has net energy billing agreements under Chapter 313 is approximately 1.04% of CMP's annual peak demand.<sup>3</sup> Consequently, CMP requested that the Commission undertake the review of net energy billing required by Section 3(J) of Chapter 313.

In response to the CMP January 14, 2016 letter, the Commission, on June 14, 2016, issued a Notice of Inquiry to obtain comment and information from interested persons regarding Maine's NEB rules and whether the rules should be modified in light

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<sup>1</sup> For a more detail description of net energy billing see *Maine Public Utilities Commission, Commission Initiated Inquiry Into Market-Based Solar Policy Design Stakeholder Process*, Docket No. 2015-00218, Report to the Legislature Regarding Market-Based Solar Policy Design Stakeholder Process (Feb. 3, 2016).

<sup>2</sup> As stated in the Commission Orders that initially adopted and modified the review trigger provision, the purpose of the provision is to assure that reexamination occurs as NEB costs increase over time. *Public Utilities Commission, Customer Net Energy Billing (Chapter 313)*, Docket No. 98-621, Order Adopting Rule and Statement of Factual and Policy Analysis at 11 (Dec. 10, 1998); *Public Utilities Commission, Amendments to Net Energy Billing Rule to Allow Shared Ownership (Chapter 313)*, Docket No. 2008-410, Order Adopting Provisional Rule and Statement of Factual and Policy Basis at 13 (Jan. 8, 2009).

<sup>3</sup> CMP stated that the 1.04% is based upon the ratio of 16.261/1,565.300, where the numerator is the megawatts of nameplate capacity of contracted net energy billing facilities and the denominator represents the Company's 2015 annual hourly peak demand.

of changes in small renewable markets, development and costs. *Maine Public Utilities Commission, Commission Initiated Inquiry into Net Energy Billing Rules (Chapter 313)*, Docket No. 2016-00120, Notice of Inquiry (June 14, 2016). The Commission received written comments from the following interested persons: David Russell, Maine Association of Building Efficiency Professionals, Conservation Law Foundation, Acadia Center, Governor's Energy Office (GEO), Revision Energy, LLC, The Nature Conservancy, Central Maine Power Company, Emera Maine, Clean Energy Collective, LLC, Energy Freedom Coalition of America, Natural Resources Council of Maine, Sunrun, Inc., Office of the Public Advocate (OPA), Municipal Street Lighting Group, Ethan Strimling, Mayor of Portland and Jon Hinck, City Councilor, legislators and several joint respondents. The Commission also received a large number of public comments. The OPA and GEO recommended fundamental changes to the NEB rules and several interested persons suggested more moderate changes to improve the current rules. Many of the interested persons and a vast majority of public comments urged the Commission not to initiate a rulemaking proceeding or make any changes to NEB.

### **III. OVERVIEW OF RULEMAKING PROCEEDING AND PROPOSED AMENDED RULE**

#### **A. Initiation of Rulemaking Proceeding**

In initiating this rulemaking proceeding, the Commission takes into consideration the comments received that no changes should be made to the rules at this time, in light of potential future review of NEB and solar power incentives in Maine by the legislature. It is the Legislature's role to pass law on energy policy in the State and the matter of NEB may very likely be raised in the upcoming legislative session. However, not knowing whether or to what extent that will occur, and as well pursuant to Commission rule and in light of changes in the technology and costs of small renewable generation (particularly solar PV), the Commission concludes that it is appropriate to open a rulemaking process to consider changes to the NEB rules. Moreover, because the proposed amended rule would do little to impact existing NEB customers and would establish the rules for future NEB customers, the rulemaking would significantly reduce the uncertainty that may currently exist in the Maine market for solar PV. If, during the next session, the Legislature takes up reform to NEB policy, the Commission believes that narrower or more technical aspects explored in this rulemaking may prove useful.<sup>4</sup>

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<sup>4</sup> In its January 8, 2009 Order Adopting Rule, the Commission recognized that fundamental decisions regarding the structure of NEB is ultimately a question of State energy policy to be determined by the Legislature and that the consideration of changes rule changes by the Commission can be helpful to the Legislature in this regard. *Public Utilities Commission, Amendments to Net Energy Billing Rule to Allow Shared Ownership (Chapter 313)*, Docket No. 2008-410, Order Adopting Provisional Rule and Statement of Factual and Policy Basis at 3-4 (Jan. 8, 2009).

At the outset, in considering possible changes to Chapter 313, it is noteworthy that NEB supports State energy policies in favor of the promotion and development of renewable, diverse and indigenous electricity supply resources that do not rely on fossil fuels and do not contribute to greenhouse gas emissions.<sup>5</sup> Additionally, distributed generation, such as solar facilities, may have a value to ratepayers and the public in general over the longer term through reduced system costs, as well as environmental and economic development benefits.<sup>6</sup>

However, programs like NEB that involve the cross-subsidization of ratepayer funds among customer groups should be reviewed periodically by the Commission to ensure that such programs are producing the desired outcomes in a manner that is least cost to non-participating ratepayers. This is precisely the reason the Commission included the review provision in the current rules. In conducting such a review in this case, it is important to consider recent and future cost trends of renewable technologies, in particular small solar installations.<sup>7</sup> It is a basic tenet of regulatory economics that compensation for services, such as electric generation, should be based on underlying costs of the technology.

#### B. Small Solar Cost Trends

In considering proposed amendments to Chapter 313, the Commission reviewed cost trends of residential solar PV, which is the predominant NEB technology. This review indicates that the installed cost of solar PV has been declining substantially and is expected to continue to do so. According to information provided by the U.S. Department of Energy, the installed cost of residential solar PV is currently in the range of \$3/WattDC.<sup>8</sup> Over the past five-to-six years, the installed cost of residential solar PV has declined from about \$5/WattDC to \$3/WattDC. Over the next ten years, the installed cost of residential solar PV is projected to decline by about 40% relative to the current \$3/WattDC level. Relative to the cost in 2010 of about \$5/WattDC, the projected installed cost of solar PV in 2026 reflects a decrease of about 60%.<sup>9</sup>

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<sup>5</sup> For a full discussion of the history and operation of NEB in Maine, including costs and benefits, see Maine Public Utilities Commission, Report on Net Energy Billing, submitted to the Legislature on January 15, 2009.

<sup>6</sup> Maine Public Utilities Commission, Maine Distributed Valuation Study (Apr. 14, 2015) *available at* [http://www.maine.gov/mpuc/electricity/elect\\_generation/documents/MainePUCVOS-ExecutiveSummary.pdf](http://www.maine.gov/mpuc/electricity/elect_generation/documents/MainePUCVOS-ExecutiveSummary.pdf).

<sup>7</sup> For example, currently, 89.4% of CMP's net billing capacity is in the form of solar power.

<sup>8</sup> *Photovoltaics*, U.S. Department of Energy, <http://energy.gov/eere/sunshot/photovoltaics> (last visited Sept. 8, 2016). These costs do not account for the further offset to installed cost due to the federal Investment Tax Credit, which is currently 30%.

<sup>9</sup> The predicted timelines for a 40% to 50% reduction from 2015 costs in the installed cost of rooftop PV range from three to ten years when looking over a diverse set of

These cost trends suggest that the compensation to NEB customers should moderate over time, rather than increase. The discussion of these cost trends is not meant to represent a comprehensive cost analysis or suggest that NEB compensation be based on a precise calculation of eligible technology costs. Instead, these cost trends inform the Commission in its determination of proposed amendments to the NEB rules. Failure to account for these trends may lead to a built-in disincentive to contain and reduce costs.

### C. Proposed Amended Rule General Approach

In recognition of the cost declines described above, the proposed amended rule reflects a gradual reduction in the kWhs that would be netted against usage. These reductions would only apply to the T&D portion of a customer's bill. For the energy supply portion of the bill, the "nettable" kilowatt-hours would remain as defined by the current rule. The proposed amended rule specifies that, for customers that become NEB customers over the next ten years, the "nettable" kWh for the T&D bill would decline by ten percentage points each year such that for customers that become new NEB customers after the year 2025, there would be no netting on the T&D portion of the bill. Specifically, for customers that become NEB customers in 2017, 90% of the kWhs would be nettable, for customers that become NEB customer in 2018, 80% of the kWhs would be nettable, and so on until, for new customers after the year 2025, the T&D component is no longer netted. Assuming a T&D component that is approximately one-half of the customer's total electricity bill, for new customers after the year 2025, the approach in the proposed amended rule would result in a reduction in the value of NEB credits equal to about half of that that would be provided under the current rule. As noted above, this end-state would be achieved gradually over the next ten years extending out twenty full years. NEB customers would receive the nettable T&D percentage applicable in the year in which they first became NEB customers for a period of fifteen years. This includes current NEB customers, who would continue to net the full T&D portion of their bill for fifteen years following the implementation of the proposed amended rule.

Thus, based on the approach in the proposed amended rule, the economics, or payback, of solar PV from a customer's perspective would be roughly similar to that observed in recent years. If solar PV costs decline even more rapidly, and if costs continue to decline after the year 2025, the economics from a customer's perspective would be even more beneficial.

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industry and government sources. For a range of predictions, see David Feldman et al., *Photovoltaic System Pricing Trends, Historical, Recent, and Near-Term Projections, 2015 Edition*, U.S. Department of Energy (Aug. 29, 2015); U.S. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2015* (2015); Vishal Shah, *Solar: Grid Parity Beyond 2016?*, Deutsche Bank (Dec. 2015); International Energy Agency, *Technology Roadmap, Solar Photovoltaic Energy* (2014).

Finally, the approach in the proposed amended rule would gradually phase-out the shifting of T&D costs from NEB customers to non-NEB customers that is inherent in the current rule by requiring NEB customers to provide a gradually increasing contribution to the cost of the T&D system that serves them. With respect to the supply bill, the Commission understands that, under the current market settlement rules, any netted kWhs are treated as a reduction to the supplier's load obligations such that little or no cost is shifting to other customers as a result of the netting. For this reason, the proposed amended rule achieves all of the reductions to "nettable" kWh on the T&D bill.

#### D. NEB Expansion

In addition to the changes to the nettable kWhs discussed above, the proposed amended rule expands NEB in Maine in several ways. First, the proposed amended rule increases the size cap for an eligible facility by 50%, from 660 kilowatts to one megawatt. Second, the proposed amended rule explicitly allows for "community" NEB. The community NEB model has been increasing as a means to promote smaller solar installations and the proposed amended rule contains provisions allowing for and governing community NEB. Third, the proposed amended rule contains specific provisions regarding "NEB leases", including customer protection provisions. This rule only applies to lease arrangements whereby a customer leases the eligible facility and that customer is entitled to the entire output of that facility. The rule does not apply to other possible leasing arrangements, such as a third-party leasing space from a customer's roof to construct a facility, while also retaining ownership of the facility and its output.

### IV. PROPOSED RULE AMENDMENTS

#### A. Purpose (Section 1)

The proposed amended rule does not change the "purpose" provision contained in the current rules.

#### B. Definitions (Section 2)

Section II contains the definition of several new terms that are contained in the proposed amended rule. These include definitions of terms used in the added provisions that govern the proposed new netting mechanism, community NEB and NEB leases. The proposed amended rule also modifies the definition of "eligible facility" to increase the maximum capacity from 660 kilowatts to one megawatt. Finally, the proposed amended rule eliminates the cap of 10 accounts or meters for net energy billing, but requires shared ownership and community NEB customers to be entitled to an interest of at least one kilowatt of the eligible facility capacity. The Commission requests comments on the feasibility of this approach, as well as whether raising the cap for eligible facilities is appropriate.

C. Annualized Customer Net Energy Billing (Section 3)

Section 3 of the proposed amended rule contains the provisions governing the netting of the output of an eligible facility the T&D and energy supply bills as described above. The provisions gradually reduce the output that may be netted against usage for determining the T&D bill for new NEB customers over ten years. For existing NEB customers, the nettable output remains as in the existing rule for a period of fifteen years. For the supply portion of customer bills, the provisions of the proposed amended rule are effectively the same as in the current rule. The new methodology achieves the outcomes described in section III(C), including elimination of the current cost-shifting from NEB to non-NEB customers. Although the energy supply bills will continue to be netted as they are under the existing rule, based on the Commission's understanding of the current wholesale market settlement rules, netted kWhs are treated as a reduction to the supplier's load obligations such that there would be little or no costs shifted to non-NEB standard offer or CEP customers under this approach. The Commission requests comments on its understanding of the market rules in this regard, as well as feedback on the length of the glide path towards the end state of the proposed amended rule when only the supply portion of the energy bill will be netted. Additionally the Commission requests comment on whether the retail energy supply rate, such as the standard offer rate, or the wholesale energy rate is the proper rate for remuneration for energy.

Section 3 also includes a provision that establishes a term of fifteen years for new NEB arrangements. The Commission requests comment on whether fifteen years is a proper term period, including whether the proposed treatment of existing NEB customers is appropriate.

Finally, Section 3 of the proposed amended rule reorganizes several subsections without any substantive changes, most notably by moving the provisions regarding shared ownership to Section 4.

D. NEB Arrangements (Section 4)

Section 4 establishes and includes provisions related to the different types of NEB arrangements that would be allowed under the proposed amended rule: individual customer; customer leases; shared ownership; and community NEB. Section 4 also establishes application, reporting, and consumer protection provisions for these NEB arrangements. The Commission is particularly interested in comments on this section relating to the breadth and structure of the consumer protection provisions from both a legal and practicable perspective and how community and shared ownership projects can be structured equitably, including comments on the transferability of shares.

#### E. Other Provisions (Section 5)

Section 5 includes several miscellaneous provisions, most of which are unchanged from the existing rule. The most significant changes were to clarify that eligible customers are not required to transfer GIS certificates and to increase the level of cumulative capacity of eligible facilities that would trigger Commission review from one percent to four percent of a transmission and distribution utilities' peak demand. The Commission requests comment on the review section of the proposed amended rule and whether four percent is the proper point at which to review the NEB billing structure.

In addition to the comments requested above, the Commission is interested in comments on the possible frameworks to enable and support aggregation of behind the meter generating technologies, such as how to monetize renewable energy credits, and how best to take advantage of existing advanced metering infrastructure to capture additional benefits for the generation, such as to monetize energy in the wholesale market during periods of peak energy prices.

#### IV. RULEMAKING PROCEDURES

This rulemaking will be conducted according to the procedures set forth in 5 M.R.S.A. §§ 8051-8058. A public hearing will be held on the proposed amended rule **1:00 p.m., Monday, October 17, 2016** in the Worster Hearing Room at the offices of the Maine Public Utilities Commission, 101 Second Street, Hallowell, ME 04347. Written comments on the proposed amended rule may be filed with the Administrative Director until **4:00 p.m., Wednesday, November 2, 2016**. **However, the Commission requests that comments be filed by 4:00 p.m., Wednesday, October 12, 2016, to allow for follow-up inquiries during the hearing; supplemental comments may be filed after the hearing.** Written comments should refer to the docket number of this proceeding, Docket No. 2016-00222 and be sent to the Administrative Director, Public Utilities Commission, 18 State House Station, Augusta, Maine 04333-0018.

In accordance with 5 M.R.S.A. § 8057-A(1), the fiscal impact of the proposed amended rule is expected to be minimal. The Commission invites all interested parties to comment on the fiscal impact and all other implications of the proposed amended rule.

Accordingly, the Commission

#### O R D E R S

1. That the Administrative Director shall notify the following of this rulemaking proceeding:





**NOTICE OF RIGHTS TO REVIEW OR APPEAL**

5 M.R.S. § 9061 requires the Public Utilities Commission to give each party to an adjudicatory proceeding written notice of the party's rights to review or appeal of its decision made at the conclusion of the adjudicatory proceeding. The methods of review or appeal of PUC decisions at the conclusion of an adjudicatory proceeding are as follows:

1. Reconsideration of the Commission's Order may be requested under Section 11(D) of the Commission's Rules of Practice and Procedure (65-407 C.M.R.ch. 110) within 20 days of the date of the Order by filing a petition with the Commission stating the grounds upon which reconsideration is sought. Any petition not granted within 20 days from the date of filing is denied.
2. Appeal of a final decision of the Commission may be taken to the Law Court by filing, within 21 days of the date of the Order, a Notice of Appeal with the Administrative Director of the Commission, pursuant to 35-A M.R.S. § 1320(1)-(4) and the Maine Rules of Appellate Procedure.
3. Additional court review of constitutional issues or issues involving the justness or reasonableness of rates may be had by the filing of an appeal with the Law Court, pursuant to 35-A M.R.S. § 1320(5).

Note: The attachment of this Notice to a document does not indicate the Commission's view that the particular document may be subject to review or appeal. Similarly, the failure of the Commission to attach a copy of this Notice to a document does not indicate the Commission's view that the document is not subject to review or appeal.