

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE COMMONWEALTH OF KENTUCKY**

ELECTRONIC APPLICATION OF
KENTUCKY POWER COMPANY FOR (1)
A GENERAL ADJUSTMENT OF ITS
RATES FOR ELECTRIC SERVICE; (2)
APPROVAL OF TARIFFS AND RIDERS;
(3) APPROVAL OF ACCOUNTING
PRACTICES TO ESTABLISH
REGULATORY ASSETS AND
LIABILITIES; (4) APPROVAL OF A
CERTIFICATE OF PUBLIC
CONVENIENCE AND NECESSITY; AND
(5) ALL OTHER REQUIRED APPROVALS
AND RELIEF

Case No. 2020-00174

Supplemental Testimony of Benjamin D. Inskeep

On Behalf of Kentucky Solar Industries Association, Inc.

February 25, 2021

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1 **I. INTRODUCTION**

2 **PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND CURRENT POSITION.**

3 Benjamin D. Inskeep, 1155 Kildaire Farm Road, Ste. 202, Cary, North Carolina, 27511. My
4 current position is Principal Energy Policy Analyst with EQ Research LLC.

5 **DID YOU PREVIOUSLY SUBMIT DIRECT TESTIMONY IN THIS PROCEEDING?**

6 Yes. I submitted direct testimony on October 7, 2020.

7 **WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY AND HOW IT IS**
8 **ORGANIZED?**

9 The purpose of my supplemental testimony is to respond to the Kentucky Public Service
10 Commission’s (“Commission”) January 15, 2021 Order of procedure in this proceeding
11 authorizing additional testimony on Kentucky Power Company’s (“Kentucky Power” and
12 “Company”) net metering tariff proposal (“NMS II”). My testimony is organized as follows:

- 13 • Section II addresses the Commission’s decisions in this proceeding to date with respect to
14 net metering.
- 15 • Section III supplements my Direct Testimony on net metering policy discussions from
16 other U.S. jurisdictions. I identify key best practices that have been employed in other
17 jurisdictions when considering potential modifications to net metering.
- 18 • Section IV supplements my Direct Testimony on net metering Legacy Rights by providing
19 additional analysis and recommendations to ensure Kentucky families and businesses have
20 reasonable protections in place that would allow them to invest in a solar net metering
21 system without facing undue risk.
- 22 • Section V contains my concluding remarks.

1 **WHAT ARE YOUR RECOMMENDATIONS TO THE COMMISSION WITH RESPECT**
2 **TO NET METERING?**

3 I recommend that the Commission reject the Company’s proposed Tariff NMS II, which has not
4 been adequately supported by Kentucky Power. As I discuss below, a critical deficiency of
5 Kentucky Power’s Tariff NMS II that the Commission recognized in its January 13, 2021, Order
6 and its February 22, 2021, Order concerning rehearing in this proceeding is that Kentucky Power
7 did not conduct a cost of service study or provide any cost support for serving net metered
8 customers, and failed to meet its burden of proof that Tariff NMS II produces fair, just, and
9 reasonable rates. Accordingly, I recommend that the Commission now take the next logical step
10 following from its Orders and reject Tariff NMS II and maintain the design of Kentucky Power’s
11 Tariff NMS I, as further supported in the previously-filed Direct Testimonies of KYSEIA
12 Witnesses James Van Nostrand, Justin Barnes, and myself.

13 To the extent the Commission determines changes are needed to the Company’s Tariff
14 NMS I to comply with statutory changes enacted through the Net Metering Act, I recommend that
15 the Commission only direct the Company to modify Tariff NMS I to reflect the Net Metering Act’s
16 definitional change of net metering with respect to “dollar value” bill credits by specifying that the
17 “dollar value” for electricity fed back to the grid by a net metering customer is the volumetric retail
18 rate applicable to the net metering customer.

19 To the extent the Commission approves Tariff NMS II or establishes a new tariff in this
20 proceeding separate from Tariff NMS I applicable to new net metering customers, I recommend
21 the Commission ensure the changes reflect both the costs and the benefits of net metering that
22 consider a long-term planning view, as described in more detail in the Supplemental Testimony of
23 KYSEIA Witness Dr. Richard McCann. I also recommend the Commission adhere closely to the

1 principle of gradualism, ensure any changes adopted are informed by the modified net metering
2 best practices established in other jurisdictions, and protect new net metering customers by
3 adopting the Legacy Rights protections I detailed in my previously-filed Direct Testimony, as
4 supplemented in Section IV of my testimony below.

1 **II. COMMISSION DECISIONS ON NMS II**

2 **WHAT DID THE COMMISSION DECIDE IN ITS JANUARY 13, 2021, ORDER IN THIS**
3 **PROCEEDING WITH RESPECT TO THE COMPANY’S PROPOSED TARIFF NMS II?**

4 The Commission deferred its decision regarding net metering rates, stating that it was “not
5 convinced by Kentucky Power’s arguments that avoided cost should be the basis for establishing
6 new net metering rates,” and that Commission Staff would “work with its consultant to ensure that
7 there is sufficient evidence to support the conclusion that Kentucky Power’s proposed Tariff NMS
8 II rates are fair, just and reasonable.”¹ The Commission found that “Kentucky Power did not
9 conduct a cost of service study or provide any cost support for serving net metered customers.”²
10 Nevertheless, Kentucky Power elected to implement Tariff NMS II on a refundable basis effective
11 January 14, 2021.³

12 **WHAT DID THE COMMISSION DECIDE IN ITS FEBRUARY 22, 2021, ORDER ON**
13 **THE COMPANY’S REHEARING REQUEST IN THIS PROCEEDING WITH RESPECT**
14 **TO THE COMPANY’S PROPOSED TARIFF NMS II?**

15 The Commission denied Kentucky Power’s request for rehearing on the issue of NMS II, affirming
16 that Kentucky Power has the burden proof to establish sufficient evidence in support of its
17 application, and finding that it failed to do so here. The Commission concluded that “there is no
18 merit to in Kentucky Power’s assertion that it provided sufficient evidence to carry its burden.”⁴

19 **DID THE COMMISSION’S JANUARY 13, 2021 ORDER AND FEBRUARY 22, 2021**
20 **ORDER REGARDING REHEARING ALIGN WITH KYSEIA’S CONCERNS ABOUT**
21 **KENTUCKY POWER’S TARIFF NMS II?**

1 Order, January 13, 2021, Case No. 2020-00174, p. 85

2 Order, pp. 84-85.

3 Ordering Paragraphs 28-29.

4 Order regarding rehearing, February 22, 2021, pp. 26-27 and Ordering Paragraph 17.

1 Yes. The Commission found that Kentucky Power failed to provide adequate support for its
2 proposal, as KYSEIA has argued throughout this proceeding.

3 **WHAT WOULD BE THE IMPACT OF TARIFF NMS II ON PROSPECTIVE NET**
4 **METERING CUSTOMERS IF THE COMMISSION WERE TO APPROVE IT IN THIS**
5 **PROCEEDING?**

6 Relative to NMS I, NMS II would reduce net metering customer bill savings by 30-40% for a
7 system sized to offset a customer's load on an annual basis.⁵ A drastic change of that magnitude
8 would severely undermine the financial value of a net-metered system to customers. As a result, if
9 Tariff NMS II is adopted, the rate of customer adoption of net metering is likely to be reduced
10 substantially relative to the counterfactual of maintaining Tariff NMS I. Given the relatively small
11 amount of net-metered generation that has been installed under Tariff NMS I, it is plausible that
12 new installations could decline to near zero in the future if Tariff NMS II is adopted.

13 Furthermore, compounding the direct and immediate negative impacts of NMS II is the
14 market-chilling effect that will be realized by an absence of any Legacy Rights provisions in NMS
15 II. Even assuming for the sake of argument that NMS II provided fair compensation to a net
16 metering customer for excess generation – which I strongly believe is not the case for reasons
17 detailed in my Direct Testimony, as well as the Direct Testimony of Justin Barnes – the lack of
18 any Legacy Rights being provided to NMS II customers creates massive uncertainty for these
19 customers with respect to their ability to estimate the financial benefits of installing a net-metered
20 system. This uncertainty about key elements of net metering, such as with respect to the export
21 credit rate, the two time periods associated with the netting periods, the period of time over which
22 exports are netted against imports during a billing period (e.g., monthly or instantaneous), and the

⁵ Direct Testimony of Justin Barnes, p. 17.

1 underlying rate design, among other features, create a major barrier to the future growth of net
2 metering. I discuss the importance of Legacy Rights further in Section IV.

3 **DOES THE NET METERING ACT MEAN THE COMMISSION MUST ADOPT MAJOR**
4 **CHANGES TO NET METERING IN THIS PROCEEDING, SUCH AS MOVING TO TWO**
5 **NETTING PERIODS AND ADOPTING AVOIDED COST RATE COMPENSATION FOR**
6 **EXCESS GENERATION?**

7 No. Although I am not an attorney, and therefore am not offering a legal opinion, the plain
8 language of the statute does not direct the Commission to make major changes to the overall design
9 of net metering or to the effective compensation rate. Instead, it provides that “The rate to be used
10 for such compensation shall be set by the commission using the ratemaking processes under this
11 chapter [KRS Chapter 278] during a proceeding initiated by a retail electric supplier or generation
12 and transmission cooperative on behalf of one (1) or more retail electric suppliers.”⁶ Clearly, the
13 Commission has the authority to set the rate, and the discretion to determine what that rate is. For
14 example, if the state legislature had wanted the Commission to specifically approve the avoided
15 cost rate as the compensation rate, it could have directed the Commission to do so. It did not.

16 The other change the Net Metering Act established with respect to the compensation rate
17 is that, under the definition of net metering, it be expressed as a “dollar value.”⁷ Nothing in the
18 statute precludes the Commission from setting the “dollar value” rate for electricity generated by
19 a net metering system that is fed back to the electric grid over a billing period at the utility’s
20 applicable volumetric retail rate. In fact, as the effective compensation rate currently in place under
21 NMS I, any deviation from the existing retail rate should be adequately supported by Kentucky
22 Power, a threshold that the Commission has already determined the Company failed to meet. Since

⁶ KRS 278.466(3). (Emphasis added.)

⁷ KRS 278.465(4).

1 the Company has failed to meet its burden of proof, the Commission should keep the effective
2 compensation rate unchanged in this proceeding.

3 The Net Metering Act also provides that “Using the ratemaking process provided by this
4 chapter, each retail electric supplier shall be entitled to implement rates to recover from its eligible
5 customer generators all costs necessary to serve its eligible customer-generators, including but not
6 limited to fixed and demand-based costs, without regard for the rate structure for customers who
7 are not eligible customer-generators.”⁸ As Kentucky Power has failed to provide a class cost of
8 service study or other evidence on the costs necessary to serve its net metering customers in
9 Kentucky, the Commission cannot determine, based on the evidence that has been presented in
10 this proceeding, what the “cost to serve” net metering customers actually is, or whether a net
11 metering customer is currently over-paying or under-paying for service. As a result of this
12 fundamental flaw, the Commission has insufficient information to determine whether Tariff NMS
13 II results in fair, just, and reasonable rates for net metering customers that recovers “all costs
14 necessary to serve” them.

15 **WHAT FACTORS SHOULD THE COMMISSION WEIGH WHEN DETERMINING**
16 **WHETHER TO MODIFY A NET METERING COMPENSATION RATE?**

17 When considering changes to the compensation rate for net metering exports, the *benefits* provided
18 by net metering customers should be considered alongside the *costs*, both on a short- and long-
19 term basis. As described more fully in the Direct Testimony of Justin Barnes, cost-benefit analyses
20 and cost-of-service studies can provide complementary information that can help inform what the
21 costs and benefits of net metering are.⁹ Cost-benefit analyses are generally conducted on a forward-
22 looking basis and can help identify the potential impacts of net metering over the long-term. A

⁸ KRS 278.466(5).

⁹ Direct Testimony of Justin Barnes, pp. 6, 10-14.

1 cost-of-service analysis takes a short-term outlook, using a snapshot of currently known costs to
2 determine the amount of costs that distributed generation (“DG”) customers are responsible for
3 relative to what they pay. Mr. Barnes concluded that “The value of exports can only be identified
4 with a cost-benefit study that utilizes a long-term time horizon and fully accounts for all future
5 benefits and costs.”¹⁰ Kentucky Power did not conduct either a cost-benefit analysis or a cost-of-
6 service study of its net metering customers, or provide other evidence that wholistically and
7 comprehensively evaluates these considerations. In Section III, I also discuss examples from other
8 jurisdictions that considered modifications to net metering and suggest several best practices for
9 modifying net metering based on my review.

10 Furthermore, there is no urgency for the Commission to make significant changes to net
11 metering in this proceeding. Net metering adoption in the Company’s service territory has been
12 minimal to date. The future growth of net metering is also constrained by statutory provisions
13 capping the size of eligible systems at 45 kW and limiting the requirement that utilities offer net
14 metering until the utility reaches 1% of its single hour peak load during the previous year.
15 Therefore, even if the Commission believes that some changes to net metering might be warranted,
16 there is little risk to the Company or other ratepayers if the Commission takes a conservative
17 approach in this proceeding that avoids immediate changes that lack adequate support.

18 **DOES THE NET METERING ACT ALLOW THE COMMISSION TO CONSIDER BOTH**
19 **BENEFITS AND COSTS WHEN DETERMINING THE APPROPRIATE**
20 **COMPENSATION RATE?**

21 I am not an attorney, and therefore am not offering a legal interpretation of Kentucky statute. The
22 Net Metering Act provides that a utility may implement rates to recover “all costs necessary to

¹⁰ Direct Testimony of Justin Barnes, p. 12. (Emphasis added.)

1 serve its eligible customer-generators.” As KYSEIA Witness Barnes pointed out, “A DG customer
2 can theoretically have a *negative* cost of service depending on the amount and timing of exports,”¹¹
3 suggesting that it is possible that Kentucky Power’s net metering customers are currently
4 subsidizing non-net metering customers under current rates. It would therefore be erroneous to
5 only consider costs while ignoring the benefits provided by net metering systems when
6 determining a compensation rate, much as it would be for a business to only account for their
7 revenues but not their expenses when determining their profitability.

8 Notwithstanding the provisions of the Net Metering Act, the Commission also continues
9 to have an obligation to set rates that are fair, just, and reasonable. Examining the cost and benefits
10 of net metering is integral to determining what a fair, just, and reasonable compensation rate is
11 under net metering.

12 **WHAT ACTION SHOULD THE COMMISSION TAKE NOW REGARDING**
13 **KENTUCKY POWER’S TARIFF NMS II?**

14 Given that the Commission has determined that Kentucky Power has failed to meet its burden of
15 proof by, among other things, “not conduct[ing] a cost of service study or provid[ing] any cost
16 support for serving net metered customers,”¹² and failing to “provide sufficient evidence to carry
17 its burden,”¹³ Kentucky Power has unequivocally failed to demonstrate that its proposed Tariff
18 NMS II rates are fair, just, and reasonable. Therefore, I recommend that the Commission reject
19 Tariff NMS II in the instant proceeding and direct Kentucky Power to provide a full refund to any
20 impacted customers that took service under Tariff NMS II. In addition, to the extent the
21 Commission believes modifications to Tariff NMS I are needed to comply with the Net Metering

¹¹ Direct Testimony of Justin Barnes, p. 10.
¹² Order, January 13, 2021, Case No. 2020-00174, pp. 84-85.
¹³ Order regarding rehearing, Case No. 2020-00174, pp. 26-27 and Ordering Paragraph 17.

1 Act, I recommend the Commission direct Kentucky Power to only modify Tariff NMS I to provide
2 for net metering credits expressed as a “dollar value” set to the eligible customer’s applicable
3 volumetric retail rate to comply with the definitional change made to net metering in the Net
4 Metering Act. Finally, I recommend that the Commission direct Kentucky Power to provide more
5 robust evidence supporting any changes it proposes to net metering in the future so that the
6 Commission and other parties can better evaluate its proposals related to net metering.

1 **III. MODIFIED NET METERING BEST PRACTICES**

2 **WHAT DO YOU MEAN BY A “MODIFIED NET METERING” POLICY?**

3 I use the term “modified net metering” to refer to recent policy changes that continue the
4 fundamentals of net metering, including monthly netting at or near the full applicable retail rate,
5 but where certain aspects of the net metering policy, such as the credit rate for monthly excess
6 generation or rate design applicable to net metering customers, was modified.

7 **HOW DOES THE COMPANY’S PROPOSED TARIFF NMS II COMPARE TO NET**
8 **METERING MODIFICATIONS ADOPTED IN OTHER JURISDICTIONS?**

9 Over the last decade, net metering has been extensively studied and investigated in many
10 jurisdictions across the country.¹⁴ In my Direct Testimony, I developed a several exhibits (Exhibits
11 BDI-2 and BDI-3) to identify which states have approved modified net metering policies or
12 established a process for creating modified net metering or a net metering successor policy, as well
13 as Legacy Rights provisions for net metering customers. The Company’s proposed NMS II would
14 be more far-reaching and more detrimental than modified net metering policies adopted in many
15 of these jurisdictions, and its position on Legacy Rights for new net metering customers would be
16 among the worst Legacy Rights policies in the country for modified net metering customers.

17 More fundamentally, the Company’s proposal stands out when compared to most modified
18 net metering policies that have been adopted in other jurisdictions for its lack of underlying support
19 and justification. Other jurisdictions, especially those that have higher penetration rates of net
20 metering, have undergone extensive investigation, study, and evaluation of net metering and
21 distributed generation policies more broadly over a period of several years *prior* to making
22 significant modifications to net metering that were not expressly directed by legislation. Typically,

¹⁴ See, e.g., ICF International, “Review of Recent Cost-Benefit Studies Related to Net Metering and Distributed Solar” (May 2018). Refer also to Tables 1 and 2 below.

1 state utility commissions have overseen investigations into net metering policies that include
2 studies that quantify the costs and benefits of net metering or the value of distributed energy
3 resources like solar prior to making significant changes. The most common outcome of these
4 proceedings is that the state utility commission adopts only limited and incremental changes to the
5 overall design of the net metering policy. Some states have gone through multiple iterations of this
6 process, spanning multiple years, to collect evidence, gather input from a variety of parties,
7 implement adjustments, monitor the results, and then restart the process in an iterative fashion to
8 consider additional refinements.

9 For instance, the California Public Utilities Commission (“CPUC”) opened Rulemaking
10 (“R.”) 14-07-002 in 2014 to study the impacts of net metering and examine tariff modifications to
11 net metering. Ultimately, a modified net metering tariff (“NEM 2.0”) was adopted in 2016. In
12 2020, the CPUC opened R.20-08-020 to develop a successor tariff to NEM 2.0, to be implemented
13 for new customers beginning in 2022.

14 Table 1 below highlights a selection of jurisdictions that have examined net metering
15 policies and identifies examples of studies that have been conducted, key regulatory proceedings
16 that have investigated these issues, and a summary of the net metering outcomes. The table is
17 meant to be illustrative, and not entirely comprehensive of every jurisdiction, study, and docket.

1 **Table 1. Key Examples of Jurisdictions Studying and Investigating Net Metering (“NEM”)**

| State (Utility) | NEM Studies | Recent NEM Dockets | NEM Outcome(s) |
|----------------------------------|--|--|--|
| Arizona (Arizona Public Service) | Distributed Renewable Energy Operating Impacts and Valuation Study (2009) ¹⁵ The Benefits and Costs of Solar Distributed Generation for Arizona Public Service (2013 ¹⁶ , 2016 ¹⁷) | E-01345A-13-0248 (2013 APS Lost Fixed Cost Recovery Charge) E-00000J-14-0023 (2014 Investigation into the Value of DG) E-01345A-16-0036 (2016 APS Rate Case) RE-00000A-17-0260 (2017 NEM Rulemaking) | Retail rate net metering retained, with a small monthly fee on APS net metering customers, through 2017. The Arizona Corporation Commission adopted a net billing policy for APS beginning in 2017. The export rate under APS’s net billing is \$0.1045/kWh through September 30, 2021. |
| California | The Impact of Rate Design and Net Metering on the Bill Savings from Distributed PV for Residential Customers in California (2010) ¹⁸ Evaluating the Benefits and Costs of Net Energy Metering in California (2013) ¹⁹ Net-Energy Metering 2.0 Look-Back Study (2021) ²⁰ | R.14-07-002 (2014 NEM “2.0” rulemaking) R.20-08-020 (2020 NEM successor tariff rulemaking) | Retail rate net metering (NEM 1.0) retained through 2017. NEM 2.0 in effect from 2017-2022 (est.). NEM 2.0 includes mandatory service under a TOD rate and retail rate credits minus non-bypassable charges. A new NEM Successor Tariff is now being developed in R.20-08-020 to take effect in 2022 (est.). |
| Colorado | Costs and Benefits of Distributed Solar Generation on the Public Service Company of Colorado System (2013) ²¹ | 14M-0235E (2014 DG Cost Benefit Investigation) 16AL-0048E, 16A-0139E, 16A-0055E (2016 Cases Resulting in NEM Settlement) 18AL-0097E (2018 Roll-over Provisions to Xcel's NEM Agreed to in Rate Case) 19R-0096E (2019 Electric Rule Changes) | Retail rate NEM retained. A 2016 proposal by Xcel Energy to implement a Grid Usage Charge of up to \$44.79 on residential customers was withdrawn as part of a settlement, resulting in NEM customers retaining retail-rate crediting. |

¹⁵ <https://appsrv.pace.edu/VOSCOE/?do=DownloadFile&res=J8PAM033116121012>

¹⁶ <https://www.seia.org/sites/default/files/resources/AZ-Distributed-Generation.pdf>

¹⁷ <https://images.edocket.azcc.gov/docketpdf/0000168554.pdf>

¹⁸ <https://emp.lbl.gov/publications/impact-rate-design-and-net-metering>

¹⁹ <https://www.growsolar.org/wp-content/uploads/2012/06/Crossborder-Energy-CA-Net-Metering-Cost-Benefit-Jan-2013-final.pdf>

²⁰ <https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442467448>

²¹ <https://bit.ly/2Zlhfet>.

| State (Utility) | NEM Studies | Recent NEM Dockets | NEM Outcome(s) |
|-----------------|--|---|---|
| Connecticut | Value of Distributed Energy Resources (2020, Draft) ²² | 15-09-03 (2015 Investigation into NEM kWh Banking) 18-06-15 (2018 DG Tariff Development re Public Act 18-50) 19-06-29 (2019 Value of Distributed Energy Resources Study) 20-07-01 (2020 Development of Tariffs for Residential Renewable Energy re Public Act 19-35) | Retail rate NEM retained after multiple proceedings and despite legislation allowing for NEM changes. A 2018 law would have ended NEM but was revoked through a 2019 law. In February 2021, the Public Utilities Regulatory Authority (“PURA”) retained retail rate net metering under a new “Netting Tariff” option. (A Buy-All, Sell-All option was also created.) PURA determined monthly netting was appropriate, even though Public Act 19-35 granted PURA discretion to impose other intervals, including instantaneous netting. NEM systems allowed to be “oversized” relative to historic usage to accommodate future load growth from EV and electric heating adoption. |
| Iowa | PV Valuation Methodology (2016) ²³ | NOI-2014-0001 (2014 DG investigation) TF-2016-0321, TF-2016-0323 (2016 Alliant and MidAmerican NEM pilots) TF-2020-0235, TF-2020-0237 (2020 Alliant and MidAmerican DG Tariffs) | A 2014 DG investigation retained and expanded retail rate NEM, establishing utility NEM “pilots” for IOUs to study impacts of retail rate NEM over several years. SF 583 (2020) maintained NEM through 2027, after which a value of solar methodology will be used to determine compensation for exports. |
| Maryland | Value of Solar Report (2017) ²⁴ Benefits and Cost of Utility Scale and Behind the Meter Solar Resources in Maryland (2018) ²⁵ | RM 41 (2011 NEM Rulemaking) PC 40 (2015 Public Conference on Small DG Deployment) PC 44 (2016 Transforming Maryland's Distribution Systems) PC 48 (2017 Investigation re Costs and Benefits of DG for Electric Cooperatives) | Retail rate NEM retained after multiple proceedings and studies. 2018 Study found NEM benefits exceed costs. |

²² <https://bit.ly/3aQTbMS>

²³ <https://www.growsolar.org/wp-content/uploads/2016/03/PV-Valuation-in-Iowa.pdf>

²⁴ <https://bit.ly/3aJXsS8>

²⁵ <https://cleantechnica.com/files/2018/11/MDVoSReportFinal11-2-2018.pdf>

| State (Utility) | NEM Studies | Recent NEM Dockets | NEM Outcome(s) |
|-----------------|---|--|--|
| Massachusetts | Value of Distributed Generation: Solar PV in Massachusetts (2015) ²⁶ Massachusetts Net Metering and Solar Task Force Final Report to the Legislature (2015) ²⁷ | 16-64 (2016 Transition to "Market Rate" NEM and a Minimum Monthly Reliability Contribution ("MMRC")) 16-151 (2016 IOUs' Petition re Revised Model NEM Tariff) 17-105; 17-146 (2017 Storage NEM Eligibility) 18-150 (2018 National Grid Rate Case Proposing MMRC) 19-24 (2019 IOUs' Revised Model NEM Tariff) | Near-retail rate NEM retained for residential customers. A reduced credit rate applies to certain other categories of customers. IOU proposals to implement a demand-charge or fixed-charge based MMRC have been denied by regulators or overruled through subsequent legislative changes. (2016 legislation allowed utilities to propose an MMRC, and 2018 legislation amended those provisions.) |
| New Hampshire | Value of Distributed Energy Resources Study (Anticipated Q1 2022) ²⁸ | DE 16-576 (2016 Investigation on Alternative NEM Tariff Development) DE 16-873, DE 16-864 (2016 Liberty Utilities Large NEM Methodology) DE 18-029 (2018 Unitil Alternative NEM Tariff) DRM 19-158 (2019 NEM Rulemaking) DE 20-136 (2020 Eversource NEM Cost Recovery) | Retail rate NEM retained for customers <100 kW, with reduction to the credit rate for monthly net excess generation. Non-bypassable charges assessed on gross grid consumption during a month and excluded from the monthly credit. Value of DER Study is ongoing and will provide detailed information regarding costs avoided by NEM under general conditions, as well as at specific times and at particular locations. |
| New York | An Analysis of the Benefits and Costs of Increasing Generation From Photovoltaic Devices in New York (2012) ²⁹ | 14-M-0101 (2014 Reforming the Energy Vision) 15-E-0703 (2015 NEM Cost-Benefit Study) 15-E-0751 (2015 NEM Successor and Value of DER Phase I) 15-E-0751 (2017 NEM Successor and Value of DER Phase II) 17-01276 (2017 VDER Phase 2 Value Stack Working Group) 17-01277 (2017 VDER Phase 2 Rate Design Working Group) | Retail rate NEM retained for residential, small commercial, and behind-the-meter systems. In 2022, a \$0.69/kW to \$1.09/kW customer benefit contribution charge will apply as a means of ensuring funding for public benefit programs, but retail-rate NEM will continue. Value of DER (VDER) implemented for other customers. Gross exports accrue as a monetary credit at a utility-specific VDER rates composed of energy, generation capacity, distribution capacity (including possible local adder) and environmental value. System distribution capacity locked in for 3 years, local distribution capacity for 10 years, and environmental value for 25 years. |

²⁶ <https://acadiacenter.org/resource/value-of-solar-massachusetts/>

²⁷ <https://www.mass.gov/doc/final-net-metering-and-solar-task-force-report/download>

²⁸ See New Hampshire Public Utilities Commission, Docket No. DE 16-576.

²⁹ <https://www.nyserda.ny.gov/About/Publications/Solar-Study>

| State (Utility) | NEM Studies | Recent NEM Dockets | NEM Outcome(s) |
|-----------------|---|---|---|
| Utah | Value of Solar in Utah (2014) ³⁰ | 14-035-114 (2014 RMP Net Metering Cost-Benefit Investigation) 16-035-T14 (2016 RMP Temporary NEM Tariff) 17-035-61 (2017 Credit Rate for DG Customer Energy Exports) | In 2015, the Utah Public Service Commission rejected Rocky Mountain Power's (RMP) proposal that net metering customers be converted into a separate customer class but directed RMP to file a cost-of-service study on net metering customers in its next rate case. In September 2017, the PSC adopted a NEM "Transition Program" as a result of a settlement agreement. DG customers were compensated at fixed rates, which varied by rate schedule, and were equal to 90% of the average energy rate for residential customers and 92.5% for other customers, for any net kWh exports at the end of 15-minute increments, capped at 170 MW for residential customers and 70 MW for other customers. In October 2020, the PSC approved RMP's request to lower the export credit rate from \$0.092/kWh to \$0.05969/kWh in summer and \$0.05630/kWh in winter. |

1
2 **HAVE JURISDICTIONS WITH HIGH NET METERING ADOPTION RATES**
3 **MAINTAINED NET METERING POLICIES?**

4 Yes. As shown in Table 1, many states with high net metering adoption rates have continued to
5 offer net metering or modified net metering, while rejecting more significant changes or multiple
6 changes that in combination could be detrimental to prospective net metering customers. For
7 example, California has required modified net metering ("NEM 2.0") customers to take service
8 under time-of-day ("TOD") rates and pay non-bypassable charges, while keeping monthly netting
9 otherwise intact. A number of other states have also kept retail-rate crediting during the billing
10 month, but reduced the compensation rate for net excess generation that is rolled over to
11 subsequent billing months, such as Nevada and New Hampshire. As I noted in my Direct
12 Testimony, the vast majority of states continue to offer retail rate net metering to residential and
13 small commercial customers.

³⁰ <https://pscdocs.utah.gov/electric/13docs/13035184/255147ExAWrightTest5-22-2014.pdf>

1 Table 2 presents a high-level summary of some attributes of modified net metering policies
2 that have been adopted in jurisdictions with higher solar adoption rates. It illustrates that even in
3 jurisdictions with far more net-metered systems installed than in Kentucky, policymakers have
4 determined that maintaining the overall structure of net metering continues to be in the interest of
5 customers. Importantly, modifications to net metering were adopted in most of these states only
6 after significant amounts of net metering systems were installed and the impacts of net metering
7 was thoroughly analyzed.

Table 2. Comparison of Attributes of Modified Net Metering Policies in Selected States

| State (Utility) | Mandatory TOD | Special Solar Rate | Incremental Fixed Charge | Minimum Bill | Capacity Fee | Excess Generation Credit | Legacy Rights Term |
|---|---------------|--------------------|--------------------------|--------------|-------------------------------------|--|--------------------------------|
| Arizona (APS) | Yes | No | No | No | \$0.93/kW (avoid with demand rate) | Monetary export rate for all exports (10% limit on annual decline and 10-year rate lock-in) | 10-year term |
| Arizona (TEP) | No | No | No | No | No | Monetary export rate for all exports (10% limit on annual decline and 10-year rate lock-in) | 10-year term |
| California | Yes | No | No | No | No | Retail rate by TOU period | 20-year term |
| Connecticut <i>“Netting Tariff” described here. Buy-all, sell-all option also will be offered.</i> | No | No | No | No | No | Monetary export rate set at retail rate | 20-year term |
| Hawaii | No | No | No | No | No | Monetary export rate for all exports | Export rate fixed through 2022 |
| Massachusetts | No | No | No | TBD | No | Retail less public purpose charges | N/A |
| New Hampshire | No | No | No | No | No | Retail less 75% of distribution rate | Up to 23 years (through 2040) |
| New York | No | No | No | No | \$0.69 - \$1.09/kW (public purpose) | Retail rate for residential, small commercial, and BTM | N/A |
| Nevada | No | No | No | No | No | For residential customers, retail rate during the month. Monthly excess credited based on a declining schedule based on installed capacity; currently, 75% of retail rate for monthly excess (the lowest of the four compensation tiers) | 20-year term |

| | | | | | | | |
|--|-----|----|----|--------------------------------|------------------------------------|---|-------------------------|
| South Carolina (DEC/DEP) <i>Proposed memorandum of understanding on Solar Choice Net Metering</i> | Yes | No | No | \$30 | \$3.95-\$5.86/kW (15 kW or larger) | Imports and exports netted within each TOD pricing period; net exports credited at avoided cost | 10-year term |
| Texas (EPE) | No | No | No | \$30 (Standard); \$26.50 (TOD) | No | Monthly credit avoided costs | 10-year or 25-year term |
| Vermont | No | No | No | No | No | Average retail + adders | 10-year term |

1

2 **WHAT OTHER OBSERVATIONS DO YOU HAVE FROM YOUR REVIEW OF**
3 **DISCUSSIONS OF NET METERING POLICIES IN OTHER JURISDICTIONS?**

4 In examining Table 1, Table 2, Exhibit BDI-2, and Exhibit BDI-3, there are several commonalities
5 among many jurisdictions in how they have considered modifications of net metering. At a high
6 level, some of the “best practices” evident from these examples for policymakers to consider when
7 evaluating modifications to net metering policies are:

- 8 • **Quantitative analysis is key:** Cost of service studies, cost-benefit analyses, and value of
9 solar (or DER) studies, or a combination thereof, have been used to quantify the impacts
10 of net metering. These studies have been paramount in informing discussions of net
11 metering policy changes, although they are not necessarily dispositive of the ultimate
12 outcome, as larger policy considerations have also played an important role in shaping
13 discussions. They can also be helpful in identifying policy solutions that align net
14 metering customer incentives with broader grid benefits in a manner that does not
15 discourage the adoption of DERs.
- 16 • **Gradualism is an important ratemaking principle:** After gathering robust evidence on
17 net metering implementation, public utility commissions that have determined that

1 changes should be made to existing net metering policies have adhered to the ratemaking
2 principle of gradualism by implementing modest changes. For example, New Hampshire
3 has maintained monthly retail rate netting, excluding non-bypassable charges, and
4 implemented a reduced credit rate for the rollover credit at the end of the month, while it
5 undertakes a multi-year study into DERs to collect additional data. Even states that
6 ultimately ended retail rate net metering and replaced it with net billing, such as Utah and
7 Louisiana, only did so after many years, multiple investigations, and a transition period
8 where a modified policy was in place that limited the immediate financial impacts on
9 prospective net metering customers.

- 10 • **Iterative process:** Net metering policy discussions are rarely resolved through one
11 proceeding. Rather, the proliferation of rooftop solar and other DERs has led many
12 policymakers to study and evaluate net metering and successor policies on an iterative
13 basis, incorporating new information as additional experience is gained and data is
14 collected.
- 15 • **Insufficiently supported utility proposals are rejected.** Numerous utility requests to
16 modify net metering policies or related rate design changes impacting net metering
17 customers have been rejected by regulators across the U.S. when they have not been
18 adequately supported and justified by the utility. Regulators have been reluctant to make
19 drastic changes to net metering that could undermine customer adoption of rooftop solar
20 when the utility has not met its burden to demonstrate that its proposed changes result in
21 just and reasonable rates and are in the public interest. In other words, regulatory
22 determinations on net metering parallel those made in ratemaking as a whole, requiring

1 utilities to meet the same burden of proof standard that applies more generally. Such a
2 standard is critical for ensuring that adopted policies or rates are not discriminatory.

- 3 • **Retail rate net metering remains commonplace.** As I noted in my Direct Testimony,
4 despite numerous proceedings and legislation addressing net metering in states across the
5 country, retail rate net metering remains one of the most widespread distributed
6 generation policies currently in place in the U.S., with approximately 39 states offering
7 net metering to residential and small commercial customers.³¹

8 **WHAT IS THE MAIN CONCLUSION YOU DRAW FROM THESE EXAMPLES AND**
9 **BEST PRACTICES?**

10 The examples from other jurisdictions highlight that state utility commissions have generally
11 favored a cautious, deliberative approach that avoids rushing to making drastic changes when
12 modifying net metering. The adage, “measure twice, cut once,” provides a succinct analogy here.
13 The Commission can “measure twice” by ensuring any modifications made under the Net Metering
14 Act are based on sound principles and robust underlying evidence. Only after gathering all the
15 requisite evidence can the Commission be confident it has the information needed to “cut once”
16 by making substantive changes to net metering, such as increasing or decreasing the credit rate for
17 electricity exported to the grid by a net metering system. In this case, Kentucky Power’s proposal
18 is the equivalent of not even “measuring” *once*, as it has failed to conduct a class cost of service
19 study and load research on its net metering customers in the Commonwealth. Any Commission
20 decision modifying net metering that stems from a process devoid of such basic underlying data
21 about net metering customers and their impacts is bound to result in a flawed result.

³¹ Direct Testimony of Ben Inskeep, p. 4.

1 **IV. LEGACY RIGHTS**

2 **WHAT LEGACY RIGHTS PROVISIONS ARE IMPORTANT FOR ENSURING**
3 **MARKET STABILITY AND CERTAINTY WHEN MAKING CHANGES TO AN**
4 **EXISTING NET METERING POLICY?**

5 When a family, business, organization, church, school, or other customer installs in a net-metered
6 system, they are making a long-term investment, generally with the expectation that it will provide
7 financial benefits over the lifetime of the system. Customers of all types are reluctant to make such
8 investments when there is an expectation or perception that key policies underlying the anticipated
9 financial benefits could significantly change. Such Legacy Rights are in practice little different
10 than the treatment utilities expect to receive through a traditional rate-based rate recovery
11 mechanism when they make long-lived investments, as Dr. McCann describes in his Supplemental
12 Testimony. To provide market stability and certainty, net metering Legacy Rights should address
13 the following:

- 14 • Export credit rate: Net metering customers should be able to lock-in the export credit rate
15 available at the time the customer submits a completed net metering application for a fixed
16 period of time. Without the ability to lock-in a credit rate, a typical customer will not be
17 able to reliably estimate the most basic financial metrics of their investment.
- 18 • Rate design: Net metering customers should have assurance that their rate design will not
19 be dramatically altered after they install a net metered system in a manner that substantially
20 reduces the value of the investment. For instance, residential customers are accustomed to
21 a monthly fixed charge and an energy-based (per kWh) charge. Moving net metering
22 customers to a new rate design that includes a demand charge, additional or significantly

1 higher fixed charge, or capacity-based charge based on the net metering system size could
2 harm these customers.

- 3 • Time-of-day rate windows: A customer taking service under a TOD rate schedule should
4 have some certainty about what hours are “on-peak.” This is particularly important to solar
5 net metering customers, as a change in the TOD window from daylight hours when the
6 system is generating electricity to non-daylight hours when solar net metering customers
7 are generally importing electricity from the grid could significantly impact the economics
8 of the net metering system.
- 9 • Tariff terms and conditions: Other terms and conditions in the net metering tariff should
10 also continue to apply should the Company make revisions to them in the future.
- 11 • Explicit provisions addressing system additions: Legacy Rights adopted by the
12 Commission should make clear that future changes to a net metering system, such as an
13 addition of net metering system capacity or the installation of a battery energy storage
14 system (“BESS”), will not result a forfeiture of Legacy Rights.

15 **WHAT WILL BE THE LIKELY OUTCOME IF THE COMMISSION DOES NOT**
16 **PROVIDE LEGACY RIGHTS TO NEW NET METERING CUSTOMERS?**

17 Failure to provide clear and sufficient Legacy Rights to new net metering customers (i.e., those
18 taking service under NMS II, should the Commission adopt Kentucky Power’s proposal) in this
19 proceeding would immediately chill the market for new net metering systems, *regardless* of the
20 Commission’s other determinations on net metering, including the export credit rate. As I
21 described in my Direct Testimony, the Company has already stated its intent to explore additional
22 changes in the future that would be detrimental to net metering customers, such as by changing

1 the netting period.³² It also affirmed its intent to frequently change the credit export rate under
2 NMS II. For instance, a solar net metering system that is installed in February 2021 and generates
3 electricity for a period of 30 years would experience *15 changes* in the export credit rate over that
4 duration, assuming Kentucky Power updates its avoided cost rates every two years as it is currently
5 required to do. It is highly unlikely that a customer would undertake a 30-year investment that
6 could benefit the grid by providing excess solar generation if the customer only has two years of
7 certainty with respect to the export credit rate.³³ Rather, prospective net metering customers would
8 be likely to undersize their net metering systems relative to their annual electricity consumption,
9 or install additional and potentially expensive equipment such as BESS, to minimize grid exports.

10 **DOES THE COMPANY’S PROPOSED TREATMENT OF BATTERY ENERGY**
11 **STORAGE SYSTEMS WITH RESPECT TO NET METERING LEGACY RIGHTS**
12 **ALIGN WITH THE TREATMENT PROPOSED BY OTHER INVESTOR-OWNED**
13 **UTILITIES IN KENTUCKY?**

14 No. Kentucky Power interprets any changes or modifications to existing systems requiring
15 submission of a new “Application for Interconnection and Net Metering” to terminate the net
16 metering Legacy period.³⁴ Even though BESS are not an “eligible electric generating facility” as
17 defined in KRS 278.465(2), Kentucky Power asserts the addition of BESS requires a new net
18 metering application, and that the submission of a new net metering application forfeits an existing
19 net metering customer’s Legacy Rights.

³² Direct Testimony of Benjamin Inskeep, pp. 23-24.

³³ Likewise, it would be similarly unlikely for the Company to voluntarily undertake a significant 30-year investment if the Commission only approved the prudence of the investment for an initial two-year period and the ability of the Company to recover its prudently incurred costs over the remaining 28-year lifespan was in question.

³⁴ Kentucky Power Response to KYSEIA Data Request KYSEIA_1_018(c).

1 In contrast, Louisville Gas & Electric and Kentucky Utilities stated in responses to
2 Information Requests in their pending rate cases that a net metering customer would not forfeit
3 their net metering Legacy Rights if the customer subsequently installs a BESS.³⁵

4 **WHAT SHOULD THE COMMISSION DETERMINE IN THIS PROCEEDING WITH**
5 **RESPECT TO BESS INSTALLED WITH NET METERING SYSTEMS?**

6 To avoid a patchwork of contradictory policies across utility jurisdictions in the
7 Commonwealth and to avoid discouraging the voluntary adoption of BESS by customers, the
8 Commission should articulate a clear policy on its treatment of BESS with respect to net metering
9 Legacy Rights. While still a nascent technology in Kentucky, BESS adoption is likely to increase
10 over the coming decade as BESS prices continue to fall. BESS can provide customers installing
11 the technology with a source of backup power that does not produce dangerous emissions.³⁶ BESS
12 can provide numerous additional benefits to the grid that complement solar energy, such as
13 flexibility, firm capacity, and shifting net metering system exports across time (e.g., from off-peak
14 to on-peak hours). Therefore, the Commission should avoid action – or inaction – that
15 inadvertently discourages customers from voluntarily investing in BESS that could provide
16 significant benefits to both the customer installing the BESS and the grid more generally in the
17 future.

18 In the instant case, Kentucky Power has offered no justification or explanation for its BESS
19 policy, such as why it is in the public interest to discourage net metering customer adoption of
20 BESS, other than pointing to its existing NMS tariff that it says requires customers to file a new

³⁵ Kentucky Public Service Commission, Case No. 2020-00350, LG&E Response to KYSEIA Data Request KYSEIA_1_004(b) and KYSEIA_1_005(e), Kentucky Public Service Commission, Case No. 2020-00349, KU Response to KYSEIA Data Request KYSEIA_1_004(b) and KYSEIA_1_005(e).

³⁶ Cf. diesel generators, which generate potentially deadly carbon monoxide that has resulted in numerous deaths in the U.S. during power outages.

1 net metering application when making a material modification to their system. KYSEIA does not
2 object if the Company would like to be informed of BESS installations added to net metering
3 systems in its service territory. However, providing notice to the Company of a BESS installation
4 should not impact a customer's Legacy Rights for the associated net metering system, which by
5 statutory definition does not include the BESS. Kentucky Power's proposal to void the statutorily
6 prescribed Legacy Rights of a net metering customer if the customer subsequently install a BESS
7 would further no legitimate interest of the utility while undermining a clear public interest.

1 **V. CONCLUSION**

2 **Please summarize your recommendations to the Commission.**

3 I recommend that the Commission reject the Company’s proposed Tariff NMS II, as the Company
4 has failed to meet its burden of proof and has not demonstrated that it will result in a rate that is
5 fair, just, and reasonable. To the extent the Commission determines changes are needed to the
6 Company’s Tariff NMS I to comply with statutory changes enacted through the Net Metering Act,
7 I recommend that the Commission only direct the Company to modify Tariff NMS I to reflect the
8 Net Metering Act’s definitional change of net metering with respect to “dollar value” bill credits
9 by specifying that the “dollar value” for electricity fed back to the grid by a net metering customer
10 is the volumetric retail rate applicable to the net metering customer.

11 To the extent the Commission approves Tariff NMS II or establishes a new tariff in this
12 proceeding separate from Tariff NMS I applicable to new net metering customers, I recommend
13 the Commission ensure the changes reflect both the costs and the benefits of net metering, adhere
14 closely to the principle of gradualism, be informed by the modified net metering best practices
15 established in other jurisdictions, and protect new net metering customers by adopting the Legacy
16 Rights protections I detailed in my previously-filed Direct Testimony and supplemented herein,
17 including:

- 18 • Adopt a 25-year Legacy period with respect to rate design, netting period (i.e., monthly),
19 netting period time windows, compensation rate, and other terms and conditions for
20 customers taking service under any tariff approved in this proceeding to replace Tariff
21 NMS I.

- 1 • Allow net metering customers, regardless of whether they are taking service under Tariff
2 NMS I or a tariff approved in this proceeding to replace Tariff NMS I, to maintain their
3 Legacy Rights if they subsequently install a BESS.
- 4 • Allow net metering customers to expand the size of a Legacy net metering facility up to
5 the customer’s annual electricity usage or 45 kW, whichever is less, without forfeiting their
6 respective Legacy Rights. Regardless of whether the Commission adopts this
7 recommendation, I recommend that it direct the Company to allow customers to replace
8 components of a net metering system, such as solar panels, without forfeiting Legacy
9 Rights, even if it results in modest increases in the total system capacity.

10 **Does this conclude your testimony?**

11 Yes.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY)
POWER COMPANY FOR (1) A GENERAL)
ADJUSTMENT OF ITS RATES FOR ELECTRIC)
SERVICE; (2) APPROVAL OF TARIFFS AND)
RIDERS; (3) APPROVAL OF ACCOUNTING)
PRACTICES TO ESTABLISH REGULATORY)
ASSETS AND LIABILITIES; (4) APPROVAL OF)
A CERTIFICATE OF PUBLIC CONVENIENCE)
AND NECESSITY; AND (5) ALL OTHER)
REQUIRED APPROVALS AND RELIEF)

CASE NO.
2020-00174

**AFFIDAVIT OF BENJAMIN INSKEEP
VERIFICATION**

JURISDICTION)
)
County of Marion)

The undersigned, Benjamin Inskeep, being first duly sworn, states the following: The prepared Supplemental Testimony constitute the testimony of Affiant in the above-styled case. Affiant states that he would give the answers set forth in the Supplemental Testimony if ask the questions propounded therein. Affiant further states that, to the best of his knowledge, his statements made are true and correct. Further, Affiant saith not.


Benjamin Inskeep

SUBSCRIBED AND SWORN to before me this 24th day of February, 2021.


NOTARY PUBLIC

My Commission Expires: 11-17-2024

MOLLEY HAMILTON
NOTARY PUBLIC
SEAL
STATE OF INDIANA
Commission Number 0693418
My Commission Expires 11/17/2024