

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

JEFF M. SHORT)	
)	
)	COMPLAINANT
v.)	CASE NO. 2013-00287
)	
KENTUCKY UTILITIES COMPANY)	
)	
)	DEFENDANT

NOTICE OF FILING

Notice is given to all parties that the following materials have been filed into the record of this proceeding:

- The digital video recording of the evidentiary hearing conducted on March 27, 2014 in this proceeding;
- Certification of the accuracy and correctness of the digital video recording;
- All exhibits introduced at the evidentiary hearing conducted on March 27, 2014 in this proceeding;
- The written log listing, *inter alia*, the date and time of where each witness' testimony begins and ends on the digital video recording of the hearing conducted on March 27, 2014.

A copy of this Notice, the certification of the digital video record, exhibit list, and hearing log have been served by first class mail upon all persons listed at the end of this

Notice. Parties desiring an electronic copy of the digital video recording of the hearing in Windows Media format may download a copy at http://psc.ky.gov/av_broadcast/2013-00287/2013-00287_27Mar14_Inter.asx. Parties wishing an annotated digital video recording may submit a written request by electronic mail to pscfilings@ky.gov. A minimal fee will be assessed for a copy of this recording.

The exhibits introduced at the evidentiary hearing may be downloaded at <http://psc.ky.gov/Home/Library?type=Cases&folder=2013%20Cases/2013-00287>.

Done at Frankfort, Kentucky, this 2nd day of April 2014.



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Director, Filings Division
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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

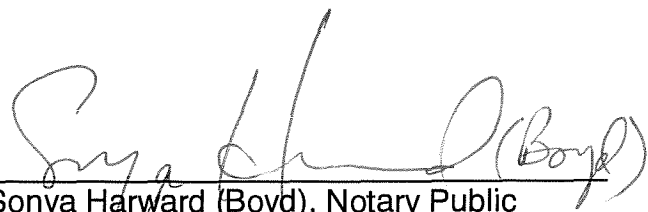
JEFF M. SHORT V. KENTUCKY UTILITIES COMPANY) CASE NO. 2013-00287

CERTIFICATE

I, Sonya Harward, hereby certify that:

1. The attached DVD contains a digital recording of the Hearing conducted in the above-styled proceeding on March 27, 2014. Hearing Log, Exhibits, Exhibit List, and Witness List are included with the recording on March 27, 2014.
2. I am responsible for the preparation of the digital recording.
3. The digital recording accurately and correctly depicts the Hearing of March 27, 2014.
4. The "Exhibit List" attached to this Certificate correctly lists all Exhibits introduced at the Hearing of March 27, 2014.
5. The "Hearing Log" attached to this Certificate accurately and correctly states the events that occurred at the Hearing of March 27, 2014 and the time at which each occurred.

Given this 28th day of March, 2014.


Sonya Harward (Boyd), Notary Public
State at Large
My commission expires: August 27, 2017



Session Report - Detail

2013-00287_27Mar2014

Jeff Short vs. Kentucky Utilities Company

Date:	Type:	Location:	Department:
3/27/2014	Other	Public Service Commission	Hearing Room 1 (HR 1)

Judge: Linda Breathitt; Jim Gardner
 Witness: Robert Conroy - KU; Andy McDonald - for Jeff Short (Complainant); Jeff Short - Complainant
 Clerk: Sonya Harward

Event Time	Log Event
9:38:31 AM	Session Started
9:38:35 AM	Session Paused
10:02:20 AM	Session Resumed
10:02:25 AM	Vice Chairman Gardner - Opening Remarks and Introductions
10:03:21 AM	Atty. Kenneth Riggs for Kentucky Utilities - Introduction
10:03:32 AM	Mr. Jeff Short, Complainant - Introduction
10:03:44 AM	Atty. Jonathan Beyer for the PSC - Introduction
10:03:48 AM	Vice Chairman Gardner - Addresses Previously-Filed Motions Note: Harward, Sonya Taking both motions under advisement, will proceed with the hearing today and will allow the two witnesses to testify.
10:03:49 AM	Camera Lock Deactivated
10:05:00 AM	Atty. Riggs - Response about Motions
10:05:14 AM	Vice Chairman Gardner explains his ruling on the Motions Note: Harward, Sonya If the motion regarding the witness's testimonies is later granted, their testimonies will be treated as public comments.
10:06:30 AM	Mr. Short - Opening Statement
10:09:40 AM	Atty. Kenneth - Opening Statement
10:10:39 AM	KU - Exhibit 1 Note: Harward, Sonya Copy of KRS 278.465 and 278.466
10:16:14 AM	Mr. Short takes the stand and is sworn in.
10:16:53 AM	Mr. Short - Direct Examination (Pro Se)
10:18:00 AM	Mr. Short Note: Harward, Sonya Referencing his pre-hearing comments, Chart 3A
10:23:07 AM	Mr. Short Note: Harward, Sonya Responding to some of KU's pre-hearing comments.
10:30:15 AM	Mr. Short Note: Harward, Sonya Referencing footnote 47 of KU's pre-hearing comments.
10:35:30 AM	Mr. Short Note: Harward, Sonya Asking about the filing of pre-hearing comments and how they should be covered in his immediate testimony.
10:35:40 AM	Vice Chairman Gardner's Response to Mr. Short's Question
10:36:06 AM	Mr. Short Note: Harward, Sonya Referencing his pre-hearing comments.
10:47:12 AM	Vice Chairman Gardner to Mr. Short Note: Harward, Sonya Due to having not asked when Mr. Short was sworn in, Vice Chairman Gardner asks Mr. Short to state his address and profession.
10:47:49 AM	Atty. Riggs to Mr. Short - Cross Exam. Note: Harward, Sonya Begins by asking about Mr. Short's participation in the Net Metering program and his current ability to do so.

10:59:18 AM	KU - Exhibit 2 Note: Harward, Sonya	KU Tariff, Small Capacity Cogeneration and Small Power Production Qualifying Facilities (SQF), dated 5/9/13.
11:09:40 AM	KU - Exhibit 3 Note: Harward, Sonya	Table 1 that was attached to Mr. Short's May 14, 2013 Letter.
11:16:41 AM	KU - Exhibit 4 Note: Harward, Sonya	KU's Rates, Residential Service (Rate RS) and Small Qualifying Facilities (Ridre SQF), with Jeff Short Table 1 attached.
11:34:13 AM	Atty. Riggs to Mr. Short Note: Harward, Sonya	Referencing page 2 of Mr. Short's Response to KU's pre-hearing comments.
11:41:36 AM	Atty. Riggs to Mr. Short Note: Harward, Sonya	Referencing KRS 278.465.
11:46:02 AM	Atty. Riggs to Mr. Short Note: Harward, Sonya	Asks him to read a portion of the 2009 Model Net Metering Rules.
11:47:10 AM	KU - Exhibit 5 Note: Harward, Sonya	Net Metering Model Rules, 2009 Edition, by Interstate Renewable Energy Council (IREC)
11:50:44 AM	Atty. Beyer to Mr. Short - Cross Exam. Note: Harward, Sonya	Asking about his use of particular rate schedules and load shifting.
11:56:09 AM	Commissioner Breathitt to Mr. Short - Cross Exam.	
11:59:41 AM	Atty. Riggs to Mr. Short - Re-Cross Exam.	
12:03:45 PM	Mr. Short dismissed from the stand.	
12:04:23 PM	Break	
12:04:25 PM	Session Paused	
12:14:04 PM	Session Resumed	
12:14:11 PM	Andy McDonald (for Jeff Short) takes the stand and is sworn in.	
12:15:12 PM	Vice Chairman Gardner - Comment about how to proceed with Witness's Testimony	
12:15:40 PM	Mr. Short to Witness McDonald - Direct Exam.	
12:16:19 PM	Witness McDonald reads his testimony into the record. Note: Harward, Sonya Note: Harward, Sonya	Director of Sustainable System Programs for Earth Tools, Inc. Testimony outlines advantages and disadvantages of KU rate schedules for customers with low emission vehicles.
12:24:27 PM	Short - Exhibit 1 Note: Harward, Sonya	Letter addressed to Jeff Derouen from Andy McDonald, March 27, 2014, Re: Testimony regarding Case No. 2013-00287, 5 pages.
12:32:34 PM	Atty. Riggs to Witness McDonald - Cross Exam. Note: Harward, Sonya	Referencing Short - Exhibit 1, page 3, to this Hearing.
12:35:22 PM	Atty. Beyer to Witness McDonald - Cross Exam. Note: Harward, Sonya	Referencing Short - Exhibit 1, page 3, to this Hearing.
12:37:10 PM	Commissioner Breathitt to Witness McDonald - Cross Exam.	
12:41:04 PM	Vice Chairman Gardner to Witness McDonald - Cross Exam. Note: Harward, Sonya	Asking about Witness's participation in PSC's preparation of regulations to implement the net metering standards.
12:41:40 PM	Atty. Riggs Objection Note: Harward, Sonya	Question calls for heresay
12:41:44 PM	Vice Chairman Gardner - Overrules Objection	
12:42:19 PM	Witness McDonald dismissed from the stand.	
12:42:35 PM	Joshua Bills (for Jeff Short) takes the stand and is sworn in. Note: Harward, Sonya	Board Member of Appalachia-Science in Public Interest, and an Energy Specialist
12:43:47 PM	Mr. Short to Witness Bills - Direct Exam.	
12:43:52 PM	Witness Bills reads his testimony into the record. Note: Harward, Sonya	Involved in Net Metering Bill, HB 490.

Note: Harward, Sonya Testimony addresses what he believes the General Assembly meant when creating KRS 278.466.

12:48:04 PM Atty. Riggs Objection
 Note: Harward, Sonya Comments are heresay.

12:48:07 PM Vice Chairman Gardner - Overrules Objection, allows Witness to continue.

12:49:51 PM Atty. Riggs Objection

12:49:55 PM Vice Chairman Gardner - Overrules Objection, but Objection is again noted.

12:55:20 PM Short - Exhibit 2
 Note: Harward, Sonya Letter addressed to Jeff Derouen from Joshua Bills, March 26, 2014, Re: Testimony regarding Case No. 2013-00287, 3 pages.

12:55:43 PM Atty. Riggs to Witness Bills - Cross Exam.

12:56:39 PM Witness Bills dismissed from the stand.

12:56:54 PM Break

12:57:00 PM Session Paused

2:00:24 PM Session Resumed

2:00:27 PM Session Paused

2:00:32 PM Session Resumed

2:00:35 PM Vice Chairman Gardner
 Note: Harward, Sonya Commented that Commissioner Breathitt is unable to attend this afternoon's session.

2:01:27 PM Robert Conroy (for KU) takes the stand.

2:01:50 PM Break due to Techinal Equipment Error

2:01:59 PM Session Paused

2:04:20 PM Session Resumed

2:04:26 PM Witness Conroy is sworn in.
 Note: Harward, Sonya Director of Rates, LG&E & KU Energy LLC

2:04:47 PM Atty. Riggs to Witness Conroy - Direct Exam.

2:05:42 PM KU - Exhibit 6
 Note: Harward, Sonya Four KU Tarrifs: Net Metering Service (NMS), dated 1/31/13; Residential Service (RS), dated 12/3/13; Low Emmission Vehicle Service (LEV), dated 12/3/13; and Small Capacity Cogeneration and Small Power Production Qualifying Facilities (SQF), dated 5/9/13.

2:22:15 PM Atty. Riggs to Witness Conroy
 Note: Harward, Sonya Discussing why KU objects to Mr. Short's proposal.

2:23:10 PM KU - Exhibit 7
 Note: Harward, Sonya Rate Effects of Parties' Positions, 2 pages.

2:31:40 PM Atty. Riggs to Witness Conroy
 Note: Harward, Sonya Referencing KU - Exhibit 4 to this Hearing.

2:34:56 PM Atty. Riggs to Witness Conroy
 Note: Harward, Sonya Discussing how paying Complainant over \$.014/kWh will effect other customers.

2:36:18 PM Atty. Riggs to Witness Conroy
 Note: Harward, Sonya Referencing Short - Exhibit 1, page 5, to this Hearing

2:39:23 PM Atty. Riggs to Witness Conroy
 Note: Harward, Sonya Discussing Witness Conroy's recommendation for Mr. Short.

2:40:16 PM Mr. Short to Witness Conroy - Cross Exam.

2:49:53 PM Mr. Short to Witness Conroy
 Note: Harward, Sonya Referencing KU - Exhibit 7 to this Hearing.

2:58:18 PM Atty. Beyer to Witness Conroy - Cross Exam.

3:01:56 PM Vice Chairman Gardner to Witness Conroy - Cross Exam.

3:06:10 PM Vice Chairman Gardner to Witness Conroy
 Note: Harward, Sonya Asking about the 2002 pilot program for Net Metering and the PSC's concerns about the program at that time.

3:20:12 PM Vice Chairman Gardner to Witness Conroy
Note: Harward, Sonya Asking what a utility's generation profile would look if a system had a big difference in on peak and off peak.

3:21:43 PM Atty. Riggs to Witness Conroy - Re-Direct

3:22:46 PM Mr. Short to Witness Conroy - Re-Cross Exam.

3:25:00 PM Vice Chairman Gardner to Witness Conroy - Re-Cross Exam.

3:25:21 PM Commissioner Breathitt returns to the Hearing

3:26:12 PM Vice Chairman Gardner - Admits all Exhibits into the Record

3:26:39 PM Vice Chairman Gardner Closing Comments

3:27:31 PM Atty. Riggs - Asking about Post-Hearing Briefs

3:27:59 PM Post-Hearing Briefs due 4/24/14

3:29:08 PM Adjourned

3:29:16 PM Session Paused

3:30:41 PM Session Ended



Exhibit List Report

2013-00287_27Mar2014

Jeff Short vs. Kentucky Utilities
Company

Name:	Description:
KU - Exhibit 1	Copy of 278.465 and 278.466
KU - Exhibit 2	KU Tariff, Small Capacity Cogeneration and Small Power Production Qualifying Facilities (SQF), dated 5/9/13.
KU - Exhibit 3	Table 1 that was attached to Mr. Short's May 14_____, 2013 Letter.
KU - Exhibit 4	KU's Rates, Residential Service (Rate RS) and Small Qualifying Facilities (Ridre SQF), with Jeff Short Table 1 attached.
KU - Exhibit 5	Net Metering Model Rules, 2009 Edition, by Interstate Renewable Energy Council (IREC)
KU - Exhibit 6	Four KU Tarrifs: Net Metering Service (NMS), dated 1/31/13; Residential Service (RS), dated 12/3/13; Low Emmission Vehicle Service (LEV), dated 12/3/13; and Small Capacity Cogeneration and Small Power Production Qualifying Facilities (SQF), dated 5/
KU - Exhibit 7	Rate Effects of Parties' Positions, 2 pages.
Short - Exhibit 1	Letter addressed to Jeff Derouen from Andy McDonald, March 27, 2014, Re: Testimony regarding Case No. 2013-00287, 5 pages.
Short - Exhibit 2	Letter addressed to Jeff Derouen from Joshua Bills, March 26, 2014, Re: Testimony regarding Case No. 2013-00287, 3 pages.

Andy McDonald
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502-223-7936
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March 27, 2014

Jeff Derouen
Executive Director
Kentucky Public Service Commission
P.O. Box 615, 211 Sower Boulevard
Frankfort, KY 40602-0615

Re: Testimony regarding Case No. 2013-00287

Dear Mr. Derouen,

I am presenting testimony in this case in support of Jeff Short's formal complaint regarding how KU is applying their net metering tariff to Rate LEV customers. I have a personal and professional interest in this case. In 2008 I served as the Director of the Kentucky Solar Partnership for Appalachia – Science in the Public Interest and participated in the PSC case which resulted in Kentucky's Interconnection and Net Metering Guidelines. I am also a customer of Kentucky Utilities and since 2011 have been a net metering customer (using a solar PV system at my home). It is conceivable that at some point in the future I might purchase an electric vehicle and consider switching to a Time of Use rate schedule, if it were available and proved to be advantageous.

Presently I am the Director of Sustainable Systems Programs for Earth Tools, Inc. where I design and develop projects to advance sustainability, including solar electric systems. I am also the President of the Kentucky Conservation Committee, a non-profit organization which has worked in support of net metering legislation and other legislation to expand the use of renewable energy and conservation in Kentucky.

1. KU's Rate LEV/Net Metering Policy Creates Conflicting Incentives Which Undermines the Purpose of Rate LEV

KU's application of their Net Metering Rider to their Rate LEV creates conflicting incentives for KU customers. In their pre-hearing comments, KU states, "the original, fundamental purpose of Rate LEV... was to encourage customers purchasing electric vehicles to charge their vehicles at night." KU asserts that for Rate LEV customers who use net metering, any credits generated must be used in the time period in which they were generated. For customers with solar PV systems, the majority of their generation would be during on-peak and intermediate peak times (and no generation would occur at night). Rate LEV customers using net metering would thereby be incentivized to charge their vehicles during the daytime in order to maximize the benefits of their PV system.

Consider the example of a customer who has a meter on their garage, in addition to the meter for their house, and they charge their electric vehicle in the garage. They then install a net-metered PV system on the garage. On weekdays throughout the year nearly all of their PV generation would occur during intermediate and on-peak times (Summer: 10am – 7pm); (All Other Months: 6am – 10pm)). The Rate

LEV structure incentivizes this customer to shift consumption into the intermediate and on-peak times in order to use the kWh credits they have generated. If there are no other substantial loads in the garage, the customer can be expected to charge the electric vehicle during peak and intermediate times. If they do not, they have simply donated kWh to KU (who then sells them to their other customers).

The same reasoning holds for a customer with a typical usage pattern who adds an electric vehicle to their home. KU's Rate LEV structure incentivizes net metering customers to shift their loads into intermediate and peak times in order to make use of their kWh credits. This undermines the purpose of Rate LEV.

2. Net Metering Customers Will Not Find Benefits to Using Rate LEV

On p.16 of their Pre-Hearing Comments, KU states, "a residential customer with a fairly typical load pattern who installs a PV system and participates in Rider NMS will likely receive a benefit by adding an electric vehicle and moving to Rate LEV from Rate RS, and will likely receive that benefit without having to shift load." KU offers no justification of this statement, no analysis of customer load profiles overlaid with hourly PV generation profiles. Consideration of these load and generation profiles demonstrates that KU's statement is incorrect. A typical net metering customer will have loads distributed throughout the day, and many loads occurring at off-peak times, especially at night in the winter. These customers benefit from the fact that net metering allows them to produce and consume credits regardless of the time of day – they do not have to concentrate electrical usage during the daytime when the sun is producing electricity. If such a customer were to buy an electric car, they could expand their PV system to accommodate their additional electric use and continue to reap the benefits of net metering, regardless of when they charge their vehicle.

If such a customer were to switch to Rate LEV, their situation could change significantly. They could find that they were accumulating many more credits than before and that these credits could only be utilized during on-peak or intermediate times. Whereas previously the customer could use electricity at any time and know that they could offset that usage with PV generation at any other time, this would no longer be the case. This customer would be incentivized to charge their electric car *during the daytime* because that is when they would be generating most of their credits. It is absurd and unreasonable to encourage customers to shift usage to off-peak times (with Rate LEV) and then tell them that they should shift usage back to peak and intermediate times to take advantage of their solar generation. It simply does not make sense.

Ironically, under typical net metering as compared to Rate LEV, customers with electric vehicles would be more likely to charge their vehicles at night, simply because there would be no disincentive to doing so. Under KU's Rate LEV/net metering policy, the customer is incentivized to NOT charge their vehicle during off-peak times.

3. KU's Rate LEV/Net Metering Policy Undermines Customers Seeking to Achieve "Net-Zero Energy"

The Rate LEV/net metering policy offered by KU would be detrimental to customers seeking to achieve a "net-zero energy" home or facility. Many net metering customers strive for "net-zero energy," which means that they aim to generate as many kilowatt-hours per year as they consume in the year, resulting in "net-zero" electricity use on an annual basis (and, importantly, a net-zero electricity bill, apart from basic monthly service charges). The goal of reaching "net-zero energy" is recognized in the net metering statute (KRS 278.465, (1)), which defines an "eligible customer-generator" as:

“a customer of a retail electric supplier who owns and operates an electric generating facility that is located on the customer's premises, *for the primary purpose of supplying all* or part of the customer's own electricity requirements.” [emphasis added]

The Rate LEV which KU offers renders achieving a “net-zero electricity bill” much more difficult, requiring customers to commit to matching their energy usage profile to their generation profile. One result of this would be for net metering customers shifting their loads into peak and intermediate time periods, as noted above, an absurd result of a policy intended to shift loads into off-peak hours.

4. No Statutory Basis Exists for Restricting Use of Net Metering Credits to Specific Time Periods

KU's Rate LEV/net metering policy diverges from the statutory definition of net metering by restricting the use of credits to the time period in which they were generated. KRS 278.466 Section 3 states: “The amount of electricity billed to the eligible customer-generator using net metering shall be calculated by taking the difference between the electricity supplied by the retail electric supplier to the customer and the electricity generated and fed back by the customer.” Whether or not a customer is using Rate LEV, statute requires that the utility accept power fed back by the customer to offset power consumed by the customer, regardless of the time when the solar power was generated or the grid power was consumed.

5. Proposed Time-of-Use/Net Metering Policy Which Would Be Sensible, Fair, and Consistent

The present case about KU's Rate LEV concerns a very narrow segment of KU customers and a rate which is presently offered only as a pilot program. However, the case may be viewed as a precedent with ramifications for the application of Time-of-Use pricing throughout the state. For this reason I believe it is important for the Commission to establish sensible, consistent guidelines for how time-of-use rates and net metering should be integrated.

I recommend that the Commission consider two approaches to integrating Time-of-Use rates with Net Metering that would be fair, reasonable and consistent, enabling both policies to support one another, rather than creating internal contradictions as KU's present policy does.

Option A. Value each kWh generated equal to each kWh consumed, regardless of the time when the generation or consumption occurred, and net excess generation as defined in Kentucky's net metering statute. This approach would be consistent with present net metering policy in Kentucky. If a customer generates an excess of 150 kWh in a month, regardless of when they were generated, they earn 150 kWh of credits to be applied in future months. Under this approach the customer would still be incentivized to charge their electric vehicle off-peak because the LEV rates would be lower and they would still be able to utilize any credits from solar generation during peak and intermediate times.

Option B. Account for the value of each kWh generated according to its time of generation. As stated in *Net Metering Model Rules 2009* from the Interstate Renewable Energy Council:

“If a Customer-generator uses a meter and retail billing arrangement that has time differentiated rates, the Electricity Provider shall net any excess production against on-site consumption within the same time-of-use period in the billing period. Excess monthly kWh credits shall be based on the ratio representing the difference in retail rates for each time of use period.”

At the end of each billing cycle the energy (kWh) charge or credit for each time-of-use period would be calculated based on the net generation or consumption within that period. The balance of those charges and credits would equal the total energy charge or credit for that billing cycle. Excess credits would carry forward to future billing cycles for the life of the account. Excess credits would be recorded in dollar units but could only be applied to future energy charges (not to basic service fees) and the utility would never make cash payments to customers for their credits. Credits would accumulate for the life of the account and be lost when the account is terminated, as occurs under the current net metering statute.

Figure 1 illustrates how this methodology would be applied, using hypothetical time-of-use rates, customer consumption and generation. The distribution of PV generation across the TOU periods is based on Jeff Short's analysis of a PV system in Berea, using 12 month of actual performance data. Note that in both months total energy consumption and PV generation is the same. PV generation is also the same within each time-of-use period. However consumption varies within the TOU periods between the two months and this has an effect on the net energy charge/credit at the end of the month. In both months the customer uses 1200 kWh and generates 1200 kWh. In Month 1 the customer uses 400 kWh in each TOU period and ends up with a net energy charge of \$7.52. In Month 2 the customer has heavily shifted consumption toward the off-peak period, resulting in a net energy credit of \$23.48.

Note that under standard net metering, the customer would have net zero kWh consumption with no credits and no charges.

This example illustrates how this approach to combining time-of-use rates with net metering increases the customer's incentive to shift loads to off-peak times. This supports the stated purpose of KU's LEV rate, which is to encourage customers with electric vehicles to charge their vehicles at night. It also supports the general goal of load shifting and demand-side management, which the Public Service Commission endorses and KU practices as a means to reduce costs and risks for ratepayers. It is also fair to the customer-generator to value their energy production at the same rate as KU charges the customer during each time period. Kentucky's net metering statute acknowledges this by providing net metering to utility customers.

Figure 1 - Illustration of net energy metering using time-of-use rates and balancing charges and credits across all TOU periods at the end of the billing cycle. (Negative dollar amounts indicate customer credits. Negative kWh indicate net excess customer generation.)

Month 1

TOU Period	Retail Rate	Consumption kWh	PV Generation kWh	Net kWh consumption	Energy charge/ credit
Off Peak	0.05	400	468	-68	-\$3.40
Intermediate	0.07	400	420	-20	-\$1.40
On Peak	0.14	400	312	88	\$12.32
Monthly totals		1200	1200	0	\$7.52

Net Customer Energy Charge = \$7.52

Month 2

TOU Period	Retail Rate	Consumption kWh	PV Generation kWh	Net kWh consumption	Energy charge/ credit
Off Peak	0.05	900	468	432	\$21.60
Intermediate	0.07	200	420	-220	-\$15.40
On Peak	0.14	100	312	-212	-\$29.68
Monthly totals		1200	1200	0	-\$23.48

Net Customer Energy Credit = -\$23.48

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March 26, 2014

Jeff Derouen
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Re: Testimony regarding Case No. 2013-00287

Dear Mr. Derouen,

I am presenting testimony in support of Jeff Short's formal complaint regarding KU's current policy in applying their net metering tariff to Rate LEV customers. I have a history of involvement in the development of net metering in Kentucky. In 2001, prior to serving on the Board of ASPI (a nonprofit Kentucky corporation), I was employed by ASPI and served as coordinator of ASPI's partnership with the U.S. Department of Energy in their Million Solar Roofs (MSR) initiative. The goal of MSR was to "transform markets for distributed solar technologies by facilitating the installation of solar systems," and a significant part of that transformation was identified as "addressing barriers to technology acceptance."

One way of addressing these barriers was achieved through working with KU to establish the first net metered facility in Kentucky at ASPI's headquarters in Mt. Vernon. KU and LG&E both filed tariffs to add pilot net metering service (Case 2001-00304 and 2001-00305). Although then limited to a pilot program, our hope was that it would serve as an example program whereby electric customers could offset part (or all) of their own electric consumption with renewable energy. Thus, giving them a choice for renewable energy with marginal (if any) detrimental costs impacts to the utility's customer rate base as a whole.

FOR THEIR OWN NET CONSUMPTION SQE VS NMS

Ultimately, it did serve as an example. In 2002, LaJuana Wilcher, who later served as Secretary of Kentucky's Environmental and Public Protection Cabinet from 2003 to 2006, took a tour of the 2.7 kW net metered PV system at ASPI. Later during her service as Secretary in 2004, she was instrumental in getting utility representatives and the ~~legislature~~ ^{Assembly} to come together in passing a net metering bill, which at the time was limited to solar energy production of electricity.

In 2008 I intervened in the PSC case resulting from the directive of the Kentucky General Assembly, which in addition to expanding net metered renewable energy systems beyond just solar, also resulted in Kentucky's Interconnection and Net Metering Guidelines (Case 2008-00169).

78. 465
466 (3)

KU is obsessed
by net access
generation that
will never be used

Currently I coordinate the Energy Efficient Enterprises program at Mountain Association for Community Economic Development. My role is to help enterprises reduce operating expenses resulting from energy consumption. The effort relies heavily on utility demand side management programs and policies.

1. I was a participant in the development of the language for the net metering bill introduced and passed in the 2004 legislative session.

The language for the net metering bill introduced to the General Assembly relied heavily on input that myself and others requested and received from the Interstate Renewable Energy Council (IREC). I was asked for my input throughout the process by the original bill sponsors (HB 490), Representative Jim Wayne and Lonnie Napier, along with the Kentucky Environmental and Public Protection Cabinet staff. My understanding of implementation and my interest in the inclusion in subsection (3) of (5)(c), of "shall be net-metered and accounted for at the specific time of day it is fed back [emphasis mine] to the electric grid in accordance with the time-of-day or time-of-use billing agreement currently in place" was to ensure that customer-generators would get credit for their generation valued at the rate set forth at the time of generation. My understanding then did not conceive the notion of implementation as KU's policy does now, of locking customer access to those credits solely to the same rate block of generation.

Mr
Riggs

2. "Time-of-use" TOU, was included, somewhat synonymous with "time-of-day" to encompass rate structures where set prices could differ over time, or over different days (i.e. separate weekend rates).

The intention of including both "time-of-day" and "time-of-use" metering was as I understood at the time, was to broadly define (and thus capture) any rate structure whereby different rates apply at different times of the day or any other variable rate structure that changes with time of use, (e.g. real-time pricing or pricing with different time/rates for weekends versus weekdays). It is worth noting that the more complex the time-of-use pricing structure becomes, the more impossible it would be for a customer-generator to access their credit production. The extreme of this would be real-time pricing whereby it would be impossible to access crediting under KU's policy since the rate time-of-use period would be instant. This further complicates KU interpretation.

3. Description of "crediting" in subsection (3) does not include any mention of "locking to particular rate block."

My understanding in 2004 was clear, as to the intent to include (5)(c), "If the electricity fed back to the retail electric supplier by the customer-generator exceeds the electricity supplied by the supplier during the billing period, the customer-generator shall be credited for the excess kilowatt hours in accordance with the subsections (3) and (4) of this section. This electricity credit shall appear on the customer-generator's next bill." My understanding in the inclusion of this was to credit a customer with net excess generation in accordance with subsection (3) which includes "If time-of-day or time-of-use metering is used, the electricity fed back [emphasis mine] to the electric grid by the eligible customer-generator shall be net-metered and accounted for at the specific time it is fed back [again emphasis mine] to the electric grid in accordance with the time-of-day or time-of-use billing agreement currently in place." Section (5)(c) states that customer-generator shall be credited in accordance with Section (3), which mentions accounting for at the specific time it is fed back to the electric grid. The intent here is clear that the customer-generator will receive credit on their bill for any excess generation at the rate by which was in place during the time of generation. Section (5)(c) also specifies net excess generation

"during the billing period," to be credited. If there was an intention of locking customer-generation credits during discreet time blocks, this (I propose) would have been worded "during the billing period or during the time-of-day or time-of-use rate block of generation,"

4. My conversations during the 2004 legislative session.

During the 2004 legislation I testified before the House Tourism Development and Energy committee with information about our participation in KU's pilot net metering service and the impacts on ASPI's electric bill resulting from the solar PV system installed there. It reported out of committee favorably. I recall no discussion about locking credits to the time-of-use of generation in any of those conversations. It was simply an interpretation that my logic didn't conceive as a potential outcome.

5. The 2004 net metering statute limited to solar electric generation only.

As can be concluded from solar electric generation evaluation web tools, (e.g. PV Watts), and from actual monitored generation (e.g. MACED's generation referred to by Jeff), solar electric generation has clear generation profiles that peak midday with no generation at night.

With the original net metering statute of 2004 limiting customer-generators solely to solar energy for electricity generation, combined with that solar electric generation peaking at midday with no generation at night, "locking to a particular rate block" any net excess generation under a time-of day or time-of-use rate structure defies my logic.

6. Intent of the statute

Locking customer-generator's grid supplied electricity generation credits into discreet time-of-day (TOD) rate blocks (KU's policy approach), and thereby barring those customer-generators from accessing those credits during other TOD or TOU rate blocks, is not the intent of the statute from my experience. The intent of the statute is to credit customer-generator's grid supplied electricity generation credits at the value set for them at the time of generation.

7. MACED generation values.

My place of employment (MACED) has a 27.1 kW solar electric system on its roof. We monitor both our building's real-time consumption and real-time generation via web hosting by the system's inverter manufacturer. I gave our generation values in a spreadsheet to Jeff that was downloaded from this service.

You can access our production and consumption by going to, <https://us.sunpowermonitor.com/Residential/customer.aspx>

When you are prompted with user name and password, enter:

User name: info@maced.org

Password: sunpower

278.465 Definitions for KRS 278.465 to 278.468.

As used in KRS 278.465 to 278.468:

- (1) "Eligible customer-generator" means a customer of a retail electric supplier who owns and operates an electric generating facility that is located on the customer's premises, for the primary purpose of supplying all or part of the customer's own electricity requirements.
- (2) "Eligible electric generating facility" means an electric generating facility that:
 - (a) Is connected in parallel with the electric distribution system;
 - (b) Generates electricity using:
 1. Solar energy;
 2. Wind energy;
 3. Biomass or biogas energy; or
 4. Hydro energy; and
 - (c) Has a rated capacity of not greater than thirty (30) kilowatts.
- (3) "Kilowatt hour" means a measure of electricity defined as a unit of work of energy, measured as one (1) kilowatt of power expended for one (1) hour.
- (4) "Net metering" means measuring the difference between the electricity supplied by the electric grid and the electricity generated by an eligible customer-generator that is fed back to the electric grid over a billing period.

Effective: July 15, 2008

History: Amended 2008 Ky. Acts ch. 138, sec. 1, effective July 15, 2008. --
Created 2004 Ky. Acts ch. 193, sec. 1, effective July 13, 2004.

278.466 Availability of net metering -- Type, expense, and installation of meter -- Calculation of electricity billed -- Rules applicable to billing -- Safety and power quality standards -- Transferability of installation.

- (1) Each retail electric supplier shall make net metering available to any eligible customer-generator that the supplier currently serves or solicits for service. If the cumulative generating capacity of net metering systems reaches one percent (1%) of a supplier's single hour peak load during the previous year, the obligation of the supplier to offer net metering to a new customer-generator may be limited by the commission.
- (2) Each retail electric supplier serving a customer with eligible electric generating facilities shall use a standard kilowatt-hour meter capable of registering the flow of electricity in two (2) directions. Any additional meter, meters, or distribution upgrades needed to monitor the flow in each direction shall be installed at the customer-generator's expense. If additional meters are installed, the net metering calculation shall yield the same result as when a single meter is used.
- (3) The amount of electricity billed to the eligible customer-generator using net metering shall be calculated by taking the difference between the electricity supplied by the retail electric supplier to the customer and the electricity generated and fed back by the customer. If time-of-day or time-of-use metering is used, the electricity fed back to the electric grid by the eligible customer-generator shall be net-metered and accounted for at the specific time it is fed back to the electric grid in accordance with the time-of-day or time-of-use billing agreement currently in place.
- (4) Each net metering contract or tariff shall be identical, with respect to energy rates, rate structure, and monthly charges, to the contract or tariff to which the same customer would be assigned if the customer were not an eligible customer-generator.
- (5) The following rules shall apply to the billing of net electricity:
 - (a) The net electricity produced or consumed during a billing period shall be read, recorded, and measured in accordance with metering practices prescribed by the commission;
 - (b) If the electricity supplied by the retail electric supplier exceeds the electricity generated and fed back to the supplier during the billing period, the customer-generator shall be billed for the net electricity supplied in accordance with subsections (3) and (4) of this section;
 - (c) If the electricity fed back to the retail electric supplier by the customer-generator exceeds the electricity supplied by the supplier during a billing period, the customer-generator shall be credited for the excess kilowatt hours in accordance with subsections (3) and (4) of this section. This electricity credit shall appear on the customer-generator's next bill. Credits shall carry forward for the life of the customer-generator's account;
 - (d) If a customer-generator closes his account, no cash refund for residual generation-related credits shall be paid; and
 - (e) Excess electricity credits are not transferable between customers or locations.

- (6) Electric generating systems and interconnecting equipment used by eligible customer-generators shall meet all applicable safety and power quality standards established by the National Electrical Code (NEC), Institute of Electrical and Electronics Engineers (IEEE), and accredited testing laboratories such as Underwriters Laboratories.
- (7) An eligible customer-generator installation is transferable to other persons or service locations upon notification to the retail electric supplier and verification that the installation is in compliance with the applicable safety and power quality standards in KRS 278.467 and in subsection (6) of this section.
- (8) Any upgrade of the interconnection between the retail electric supplier and the customer-generator that is required by commission-approved tariffs for the purpose of allowing net metering shall be made at the expense of the customer-generator.

Effective: July 15, 2008

History: Amended 2008 Ky. Acts ch. 138, sec. 2, effective July 15, 2008. --
Created 2004 Ky. Acts ch. 193, sec. 2, effective July 13, 2004.

Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 55
Canceling P.S.C. No. 16, Original Sheet No. 55

Standard Rate Rider

SQF

Small Capacity Cogeneration and Small Power Production Qualifying Facilities

APPLICABLE:

In all territory served.

AVAILABILITY OF SERVICE

This rate and the terms and conditions set out herein are available for and applicable to Company's purchases of energy only from the owner of qualifying cogeneration or small power production facilities of 100 kW or less (such owner being hereafter called "Seller") installed on Seller's property to provide all or part of its requirements of electrical energy, or from which facilities Seller may elect to sell to Company all or part of such output of electrical energy.

Company will permit Seller's generating facilities to operate in parallel with Company's system under conditions set out below under "Parallel Operation".

Company will purchase such energy from Seller at the Rate, A or B, set out below and selected as hereafter provided, and under the terms and conditions stated herein. Company reserves the right to change the said Rates, upon proper filing with and acceptance by the jurisdictional Commission.

RATE A: TIME-DIFFERENTIATED RATE

1. For summer billing months of June, July, August and September, during the hours 9:01 A.M. thru 10:00 P.M. weekdays exclusive of holidays (on-peak hours), \$0.03636 per kWh
2. For winter billing months of December, January and February, during the hours 7:01 A.M. thru 10:00 P.M. weekdays exclusive of holidays (on-peak hours), \$0.03040 per kWh
3. During all other hours (off-peak hours) \$0.02822 per kWh

Determination of On-Peak and Off-Peak Hours: On-peak hours are defined as the hours of 9:01 A.M. through 10:00 P.M., E.D.T. (8:01 A.M. through 9:00 P.M., E.S.T.), Mondays through Fridays exclusive of holidays (under 1 above), and the hours of 7:01 A.M. through 10:00 P.M., E.D.T. (6:01 A.M. through 9:00 P.M., E.S.T.), Mondays through Fridays exclusive of holidays (under 2 above). Off-peak hours are defined as all hours other than those listed as on-peak (under 3 above). Company reserves the right to change the hours designated as on-peak from time to time as conditions indicate to be appropriate.

RATE B: NON-TIME-DIFFERENTIATED RATE

For all kWh purchased by Company, \$0.02949 per kWh

DATE OF ISSUE: May 9, 2013

DATE EFFECTIVE: June 30, 2012

ISSUED BY: /s/ Edwin R. Staton, Vice President
State Regulation and Rates
Lexington, Kentucky

Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 55.1
Canceling P.S.C. No. 16, Original Sheet No. 55.1

Standard Rate Rider

SQF

Small Capacity Cogeneration and Small Power Production Qualifying Facilities

SELECTION OF RATE AND METERING

Subject to provisions hereafter in this Section relative to payment of costs of metering equipment, either Seller or Company may select Rate A, the Time-Differentiated Rate, for application to Company's said purchases of energy from Seller. If neither Seller nor Company selects Rate A, then Rate B, the Non-Time-Differentiated Rate, shall apply.

If neither Seller nor Company selects Rate A, and Rate B therefore is to apply to such purchases, Company, at Seller's cost, will install, own and operate a non-time-differentiated meter and associated equipment, at a location selected by Company, measuring energy, produced by Seller's generator, flowing into Company's system. Such meter will be tested at intervals prescribed by Commission Regulation, with Seller having a right to witness all such tests; and Seller will pay to Company its fixed cost on such meter and equipment, expense of such periodic tests of the meter and any other expenses (all such costs and expenses, together, being hereafter called "costs of non-time-differentiated metering").

If either Seller or Company selects Rate A to apply to Company's said purchases of energy from Seller, the party (Seller or Company) so selecting Rate A shall pay (a) the cost of a time-differentiated recording meter and associated equipment, at a location selected by Company, measuring energy, produced by Seller's generator, flowing into Company's system, required for the application of Rate A, in excess of (b) the costs of non-time-differentiated metering which shall continue to be paid by Seller.

In addition to metering referred to above, Company at its option and cost may install, own and operate, on Seller's generator, a recording meter to record the capacity, energy and reactive output of such generator at specified time intervals.

Company shall have access to all such meters at reasonable times during Seller's normal business hours, and shall regularly provide to Seller copies of all information provided by such meters.

PAYMENT

Any payment due from Company to Seller will be due within sixteen (16) business days (no less than twenty-two (22) calendar days) from date of Company's reading of meter; provided, however, that, if Seller is a customer of Company, in lieu of such payment Company may offset its payment due to Seller hereunder, against Seller's next bill and payment due to Company for Company's service to Seller as customer.

PARALLEL OPERATION

Company hereby permits Seller to operate its generating facilities in parallel with Company's system, under the following conditions and any other conditions required by Company where unusual conditions not covered herein arise:

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: January 1, 2013

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

Issued by Authority of an Order of the
Public Service Commission in Case No.
2012-00221 dated December 20, 2012

Kentucky Utilities Company

P.S. C. No. 16, First Revision of Original Sheet No. 55.2
Canceling P.S.C. No. 16, Original Sheet No. 55.2

Standard Rate Rider

SQF

Small Capacity Cogeneration and Small Power Production Qualifying Facilities

1. Prior to installation in Seller's system of any generator and associated facilities which are intended to be interconnected and operated in parallel with Company's system, or prior to the inter-connection to Company's system of any such generator and associated facilities already installed in Seller's system, Seller will provide to Company plans for such generator and facilities. Company may, but shall have no obligation to, examine such plans and disapprove them in whole or in part, to the extent Company believes that such plans and proposed facilities will not adequately assure the safety of Company's facilities or system. Seller acknowledges and agrees that the sole purpose of any Company examination of such plans is the satisfaction of Company's interest in the safety of Company's own facilities and system, and that Company shall have no responsibility of any kind to Seller or to any other party in connection with any such examination. If Seller thereafter proposes any change from such plans submitted to Company, prior to the implementation thereof Seller will provide to Company new plans setting out such proposed change(s).
2. Seller will own, install, operate and maintain all generating facilities on its plant site, such facilities to include, but not be limited to, (a) protective equipment between the systems of Seller and Company and (b) necessary control equipment to synchronize frequency and voltage between such two systems. Seller's voltage at the point of interconnection will be the same as Company's system voltage. Suitable circuit breakers or similar equipment, as specified by Company, will be furnished by Seller at a location designated by Company to enable the separation or disconnection of the two electrical systems. Except in emergencies, the circuit breakers, or similar equipment, will be operated only by, or at the express direction of, Company personnel and will be accessible to Company at all times. In addition, a circuit breaker or similar equipment shall be furnished and installed by Seller to separate or disconnect Seller's generator.
3. Seller will be responsible for operating the generator and all facilities owned by Seller, except as hereafter specified. Seller will maintain its system in synchronization with Company's system.
4. Seller will (a) pay Company for all damage to Company's equipment, facilities or system, and (b) save and hold Company harmless from all claims, demands and liabilities of every kind and nature for injury or damage to, or death of, persons and/or property of others, including costs and expenses of defending against the same, arising in any manner in connection with Seller's generator, equipment, facilities or system or the operation thereof.
5. Seller will construct any additional facilities, in addition to generating and associated (interface) facilities, required for interconnection unless Company and Seller agree to Company's constructing such facilities, at Seller's expense, where Seller is not a customer of Company. When Seller is a customer of Company and Company is required to construct facilities different than otherwise required to permit interconnection, Seller shall pay such additional cost of facilities. Seller agrees to reimburse Company, at the time of installation,

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: December 5, 1985

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

**Issued by Authority of an Order of the
Public Service Commission in Case No.
2009-00548 dated July 30, 2010**

Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 55.3
Canceling P.S.C. No. 16, Original Sheet No. 55.3

Standard Rate Rider

SQF

Small Capacity Cogeneration and Small Power Production Qualifying Facilities

or, if agreed to by both parties, over a period of up to three (3) years, for any facilities including any hereafter required (but exclusive of metering equipment, elsewhere herein provided for) constructed by Company to permit Seller to operate interconnected with Company's system. When interconnection costs are repaid over a period of time, such payments will be made monthly and include interest on the unpaid balance at the percentage rate equal to the capital costs that Company would experience at such time by new financing, based on Company's then existing capital structure, with return on equity to be at the rate allowed in Company's immediately preceding rate case.

6. Company will have the continuing right to inspect and approve Seller's facilities, described herein, and to request and witness any tests necessary to determine that such facilities are installed and operating properly; but Company will have no obligation to inspect or approve facilities, or to request or witness tests; and Company will not in any manner be responsible for Seller's facilities or any operation thereof.
7. Seller assumes all responsibility for the electric service upon Seller's premises at and from the point of any delivery or flow of electricity from Company, and for the wires and equipment used in connection therewith; and Seller will protect and save Company harmless from all claims for injury or damage to persons or property, including but not limited to property of Seller, occurring on or about Seller's premises or at and from the point of delivery or flow of electricity from Company, occasioned by such electricity or said wires and equipment, except where said injury or damage is proved to have been caused solely by the negligence of Company.
8. Each, Seller and Company, will designate one or more Operating Representatives for the purpose of contacts and communications between the parties concerning operations of the two systems.
9. Seller will notify Company's Energy Control Center prior to each occasion of Seller's generator being brought into or (except in cases of emergencies) taken out of operation.
10. Company reserves the right to curtail a purchase from Seller when:
 - (a) the purchase will result in costs to Company greater than would occur if the purchase were not made but instead Company, itself, generated an equivalent amount of energy; or
 - (b) Company has a system emergency and purchases would (or could) contribute to such emergency.Seller will be notified of each curtailment.

TERMS AND CONDITIONS

Except as provided herein, conditions or operations will be as provided in Company's Terms and Conditions.

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: December 5, 1985

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

Issued by Authority of an Order of the
Public Service Commission in Case No.
2009-00548 dated July 30, 2010

Table 1

Potential Impact of Time of Use Rates Combined with Solar (PV) Net Metering

(A hypothetical calculation based on KY's sunshine, patterns of electricity usage and TOU electricity rates)

The synergy of TOU rates combined with solar (PV) generation is primarily driven by 3 factors:

- 1 Much of the sun's potential is available "On-Peak" during the high production Summer days
- 2 A consumer's "Electricity Demand Pattern" can be managed toward lower Off-Peak rates
- 3 A TOU rate schedule that assigns a retail value to a kWh of electricity when it is metered (regardless of the direction of flow through the meter for net metering accounts)

Significant Results:

- A Calculated Production/Usage Ratio 0.699
(30% Reduction in "Break Even" Solar Array Sizing)
- B Consumers have insulation from future rate increases
- C Improved Payback on Investments in Solar (PV) Generators
- D Ongoing flattening of peaks and valleys in demand for grid supplied electricity
(See the sheet named "Benefits" for other potential benefits)

Winter Schedule (November 1-April 30)

	Example TOU Rates (\$/kWh)	TOU Rate Ratios	Hours in Effect (hr)	KY (PV) Production Potential* (% Total)	Electricity Demand Pattern* (% Total)	Produced During Period (kwh)	Period Value Produced (\$)	Demand During Period (kWh)	Cost of Usage (\$)
On-Peak	0.140	1.000	6-12	18.5	3.0	614	85.97	158	22.11
Intermediate	0.074	0.526	12-22	52.9	24.8	1753	129.13	1305	96.14
Off-Peak	0.052	0.368	22-6	28.6	72.2	947	48.84	3800	196.01

Summer Schedule (May 1-October 31)

	Example TOU Rates (\$/kWh)	TOU Rate Ratios	Hours in Effect (hr)	KY (PV) Production Potential* (% Total)	Electricity Demand Pattern* (% Total)	Produced During Period (kwh)	Period Value Produced (\$)	Demand During Period (kWh)	Cost of Usage (\$)
On-Peak	0.140	1.000	13-19	41.0	6.7	1250	175.06	257	36.04
Intermediate	0.074	0.526	10-22	24.6	15.3	749	55.19	588	43.30
Off-Peak	0.052	0.368	22-10	34.4	78.0	1047	54.02	2997	154.61

	Annual Electricity Used (kWh)	Annual Electricity Produced (kWh)	Annual Usage Cost (\$)	Annual Value Produced (\$)	Example Flat Rate (\$/kWh)	Flat Rate Cost (\$/yr)
	9,106	6361	548.21	548.21	0.0735	668.95
Winter	57.8	52.1			TOU	(\$/yr)
Summer	42.2	47.9			Savings	120.73

Note: (For Electronic versions) modify values in cells with the yellow background to see impact
 *KY PV Production Potential % taken from PVWatts data for fixed arrays (Tilt 38deg Az 180deg Lex)
 *Demand patterns vary based on weather, lifestyles, number of occupants, efficiency, etc.
 The patterns in this example are observed in a 2000sqft residence occupied by two working adults
 The more effectively a NEM consumer shifts their demand the more value their excess generation has

KU's Rates

Residential Service (Rate RS)

Energy Charge	\$	0.07744
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Low Emission Vehicle Service (Rate LEV)

Off Peak Hours	\$	0.05587
Intermediate Hours	\$	0.07763
Peak Hours	\$	0.14297

Small Qualifying Facilities (Rider SQF)

Summer Peak	\$	0.03636
Winter Peak	\$	0.03040
Off Peak	\$	0.02822
<u>OR</u> Single All-Hours Rate	\$	0.02949

Jeff Short Table 1 Annual Production and Consumption Projections (kWh)

	Summer			Winter		
	Production	Consumption	Net Consumption	Production	Consumption	Net Consumption
Peak	1250	257	(993)	614	158	(456)
Intermediate	749	588	(161)	1753	1305	(448)
Off Peak	1047	2997	1950	947	3800	2853
Total	3046	3842	796	3314	5263	1949
Total kWh production	6360					
Total kWh consumption		9105				
Net kWh consumption		2745				

Rate RS and Rider NMS

	<u>Net Consumption</u>	<u>Rate</u>	<u>Charge</u>
Rate RS	2745	\$ 0.07744	\$ 212.57

Rate RS and Rider NMS customer would pay for 2745 kWh net consumption: \$212.57

Jeff Short proposes to pay for 2745 kWh net consumption: \$0.00

* Short Table 1 shows no energy charge for 2745 kWh net consumption. Net charge would be \$13.90 under new Rate LEV rates.

Table 1

Potential Impact of Time of Use Rates Combined with Solar (PV) Net Metering

(A hypothetical calculation based on KY's sunshine, patterns of electricity usage and TOU electricity rates)

The synergy of TOU rates combined with solar (PV) generation is primarily driven by 3 factors:

- 1 Much of the suns potential is available "On-Peak" during the high production Summer days
- 2 A consumers "Electricity Demand Pattern" can be managed toward lower Off-Peak rates
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- D Ongoing flattening of peaks and valleys in demand for grid supplied electricity
(See the sheet named "Benefits" for other potential benefits)

Winter Schedule (November 1-April 30)

	Example TOU Rates (\$/kWh)	TOU Rate Ratios	Hours in Effect (hr)	KY (PV) Production Potential* (% Total)	Electricity Demand Pattern* (% Total)	Produced During Period (kwh)	Period Value Produced (\$)	Demand During Period (kWh)	Cost of Usage (\$)
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Summer Schedule (May 1-October 31)

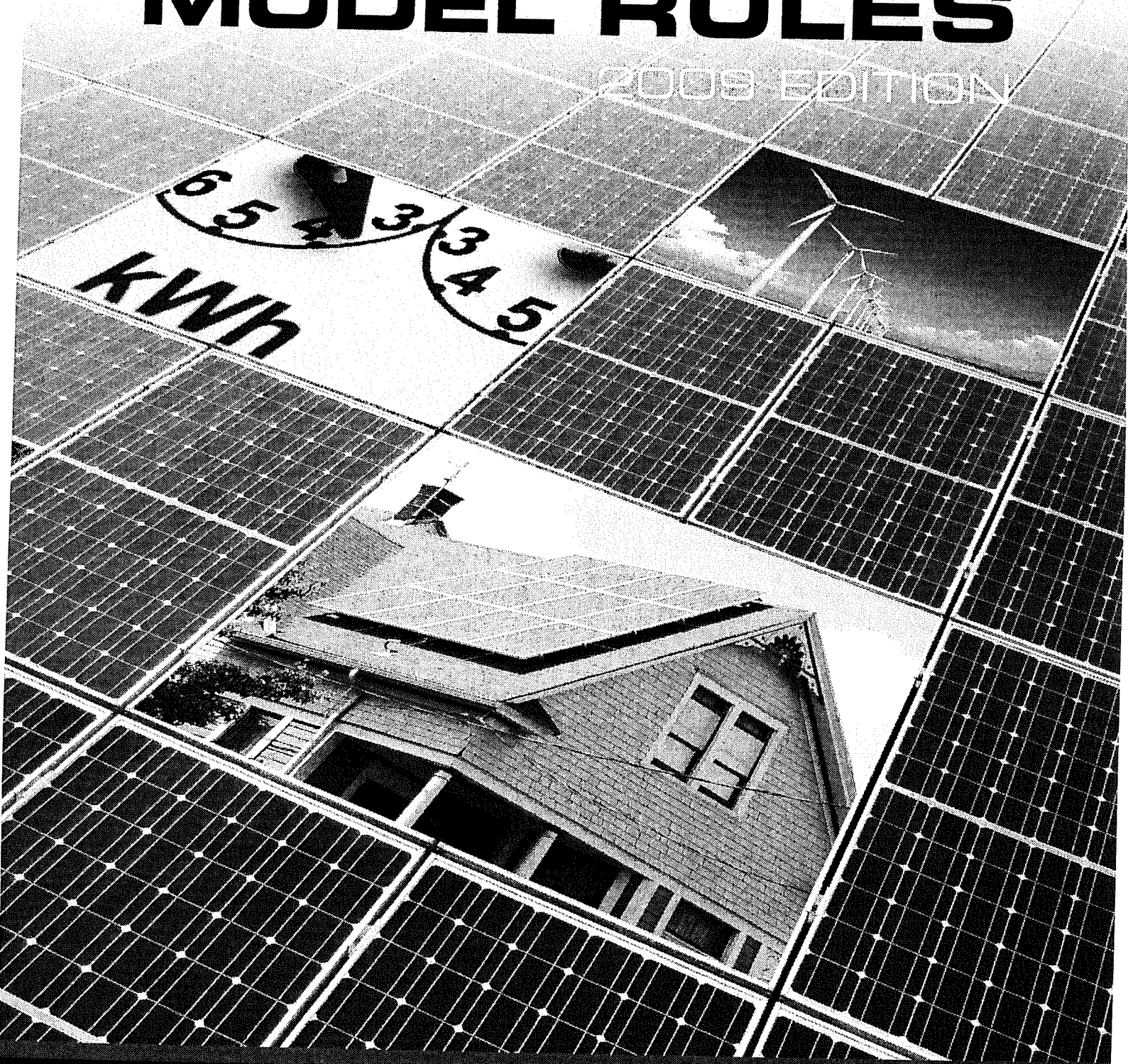
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Winter	57.8	52.1			TOU Savings	(\$/yr) 120.73
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 The patterns in this example are observed in a 2000sqft residence occupied by two working adults
 The more effectively a NEM consumer shifts their demand the more value their excess generation has

NET METERING MODEL RULES

2009 EDITION



KU EXHIBIT 5

 **IREC**
INTERSTATE RENEWABLE ENERGY COUNCIL



IREC Model Net Metering Rules

<http://www.irecusa.org/NMmodel09>

Introduction

IREC first developed its model rules in 2003 in an effort to capture best practices in state net metering policies. Since that time, there has been significant market growth for renewable distributed generation systems, in particular solar photovoltaics. To facilitate this growth, many states have either adopted net metering policies that capture some of the best practices that were identified in the IREC model rules or adopted rules that advance the policies contained in IREC's model. In addition, many of the states that were first adopters of net metering policies have since revisited and updated their policies. While many of the basic issues that are essential to a successful net metering policy have not changed, substantial developments in state net metering policies and the marketplace since 2003 mean an update to IREC's model is necessary to incorporate lessons learned to date and to continue the development and dissemination of best practices.

Among the most exciting state policy changes have been an increase in the size of systems eligible for net metering and expansion of program capacity caps. Several states have also made adjustments that allow customers with multiple meters on contiguous property to allow a single renewable system to offset the aggregate load measured on those meters. Moreover, as the markets for distributed renewable generation have evolved, there have also been some more novel modifications made to state net metering policies. For example, as third-party financing arrangements have become more common, so too have been updates to net metering policies to allow for third-party ownership of net-metered systems. These best practices have been incorporated into this update of IREC's model rules.

On significant points such as size of systems eligible for net metering, program capacity caps, and treatment of annual excess generation, there has been broad variation between states. In an effort to capture this variation, IREC's model rules now include footnotes that discuss the various approaches states have taken on these issues. IREC believes this discussion will be useful to stakeholders to show areas where states have deviated from IREC's best practices.

IREC welcomes the opportunity to work with state utility commissions and individual utilities to develop interconnection procedures; please contact IREC at info@irecusa.org with inquiries. For more information on IREC's model rules and further elaboration of the changes contained in this update, please see www.irecusa.org.

Net Metering

(a) Definitions

- (1) “Biomass” means a power source that is comprised of, but not limited to, combustible residues or gases from forest products manufacturing, waste, byproducts, or products from agricultural and orchard crops, waste or co-products from livestock and poultry operations, waste or byproducts from food processing, urban wood waste, municipal liquid waste treatment operations, and landfill gas.¹
- (2) “Customer-generator” means any customer of an Electricity Provider that generates electricity on the customer’s side of the billing meter with Renewable Energy Generation that is primarily intended to offset part or all of the customer’s electricity requirements. A Customer-generator does not need to be the owner of the Renewable Energy Generation system.
- (3) “Electricity Provider” means the jurisdictional entity that is required to offer Net Metering service to eligible Customer-generators.
- (4) “Net Metering” means a methodology under which electric energy generated by or on behalf of a Customer-generator and delivered to the Electricity Provider’s local distribution facilities may be used to offset electric energy provided by the Electricity Provider to the Customer-generator during the applicable billing period.
- (5) “Renewable Energy Generation” means an electrical energy generation system that uses one or more of the following fuels or energy sources: Biomass, solar energy, geothermal energy, wind energy, ocean energy, hydroelectric power, or hydrogen produced from any of these resources.
- (6) “Renewable Energy Credit” means a tradable instrument that includes all renewable and environmental attributes associated with the production of electricity from a Renewable Energy Generation system.

(b) Net Metering general provisions

- (1) All Electricity Providers shall offer Net Metering to Customer-generators with Renewable Energy Generation that that is interconnected and operated in parallel pursuant to the interconnection rules in Section *[[reference state interconnection rules here]]*; *provided, however*, that the rated capacity of the Renewable Energy Generation does not exceed the Customer-generator’s service entrance capacity.²

¹ The definition of Biomass may need to be adjusted to reflect state renewable portfolio standard definitions.

² Some states do not impose limitations on the size of a Renewable Energy Generating system that may be Net Metered. For states that impose system size limitations, such limits vary from as

- (2) All Electricity Providers shall make Net Metering available to Customer-generators in a timely manner and on a first-come, first-served basis. An Electricity Provider shall not limit the cumulative, aggregate generating capacity of net-metered systems in any manner.³
- (3) Each Electricity Provider shall develop a net metering tariff that provides for Customer-generators to be credited in kilowatt-hours (kWh) at a ratio of 1:1 for any excess production of their generating facility that exceeds the Customer-generator's on-site consumption of kWh in the billing period.
- (4) The Electricity Provider shall carry over any excess kWh credits earned by a Customer-generator and apply those credits to subsequent billing periods to offset the Customer-generator's consumption in those billing periods until all credits are used.⁴ Any excess kWh credits shall not reduce any fixed monthly customer charges imposed by the Electricity Provider.
- (5) An Electricity Provider shall offer a Customer-generator the choice of a time-differentiated energy tariff rate or a non-time-differentiated energy tariff rate, if the Electricity Provider offers the choice to customers in the same rate class as the Customer-generator. If a Customer-generator uses a meter and retail billing arrangement that has

low as 25 kilowatts to as high as 80 megawatts; however, most states appear to be coalescing at a 2-megawatt cap.

³ Some states cap the total amount of aggregate Renewable Energy Generation that can be Net Metered for a particular Electricity Provider. Most commonly, aggregate enrollment caps are expressed as a percentage of an Electricity Provider's peak demand based on the aggregate of nameplate capacity of the generation systems (though it should be noted that capacity calculations are not standardized in their methodology across or even within states). Such percentages can vary from as low as 0.1% to as high as 20%. IREC believes aggregate caps arbitrarily and unnecessarily limit private investment in Renewable Energy Generation and needlessly curtail the flow of benefits that are associated with customer-side Renewable Energy Generation. Moreover, aggregate caps ignore the fact that many large systems do not export energy yet disproportionately count towards meeting a cap, limiting the number of small systems that are eligible. For these reasons, IREC has not adopted an aggregate enrollment cap in these rules.

⁴ States have explored various approaches regarding the treatment of annual net excess generation. The most common approaches allow an Electricity Provider either to retain the net excess generation free of charge or to provide payment for annual net excess generation at the Electricity Provider's avoided cost. However, more novel approaches have also been taken. At least one state directs annual net excess generation to a state low-income assistance program. These rules provide for perpetual rollover of excess generation credits. This approach has been adopted in a number of states and has been adopted as a best practice in these rules. This approach allows for maximum flexibility in sizing a system while assuring a minimum level of regulatory and administrative burden.

time differentiated rates, the Electricity Provider shall net any excess production against on-site consumption within the same time-of-use period in the billing period. Excess monthly kWh credits shall be based on the ratio representing the difference in retail rates for each time of use period.

- (6) If a Customer-generator terminates service with the Electricity Provider or switches Electricity Providers, the Electricity Provider is not required to provide compensation to the Customer-generator for any outstanding excess kWh credits.
- (7) A Customer-generator facility used for Net Metering shall be equipped with metering equipment that can measure the flow of electricity in both directions. For Customer-generator facilities less than 25 kilowatts (kW) in rated capacity, this shall be accomplished through the use of a single, bi-directional electric revenue meter that has only a single register for billing purposes.⁵
- (8) A Customer-generator may choose to use an existing electric revenue meter if the following criteria are met:
 - i. The meter is capable of measuring the flow of electricity both into and out of the Customer-generator's facility; and
 - ii. The meter is accurate with a degree of accuracy that the Electricity Provider requires when measuring electricity flowing from the Customer-generator facility to the electric distribution system.
- (9) If a Customer-generator's existing electric revenue meter does not meet the requirements of subsection (b)(8), the Electricity Provider shall install and maintain a new revenue meter for the Customer-generator at the Electricity Provider's expense. Any subsequent revenue meter change necessitated by the Customer-generator, whether because of a decision to stop Net Metering or for any other reason, shall be paid for by the Customer-generator.
- (10) The Electricity Provider shall not require more than one meter per Customer-generator. However, an additional meter may be installed under either of the following circumstances:
 - i. The Electricity Provider may install an additional meter at its own expense if the Customer-generator provides written consent; or
 - ii. The Customer-generator may request that the Electricity Provider install a meter, in addition to the revenue meter addressed in subsection (b)(8), at the Customer-

⁵ This provision may need to be modified in states that are implementing advanced metering infrastructure (AMI) and require residential and small commercial customers to have AMI meters; provided, however, that any such meter does not result in an additional cost to a Customer-generator beyond the cost that would be paid in the absence of a customer having Renewable Energy Generation.

generator's expense. In such a case, the Electricity Provider shall charge the Customer-generator no more than the actual cost of the meter and its installation.

- (11) A Customer-generator owns the Renewable Energy Credits (RECs) associated with the electricity it generates, unless such RECs were explicitly contracted for through a separate transaction independent of any Net Metering or interconnection tariff or contract.
- (12) An Electricity Provider shall provide to Customer-generators electric service at non-discriminatory rates that are identical, with respect to rate structure, retail rate components and any monthly charges, to the rates that a Customer-generator would be charged if not a Customer-generator, including choice of retail tariff schedules.
- (13) An Electricity Provider shall not charge a Customer-generator any fee or charge; or require additional equipment, insurance or any other requirement not specifically authorized under this sub-section or the interconnection rules in Section *[[reference state interconnection rules here]]*, unless the fee, charge or other requirement would apply to other similarly situated customers who are not Customer-generators.
- (14) Each Electricity Provider shall submit an annual Net Metering report to the *[[insert name of state regulatory commission]]*. The report shall be submitted by *[[insert date]]* of each year, and shall include the following information for the previous year:
 - i. The total number of Net Metered Customer-generator facilities, by resource type;
 - ii. The total rated generating capacity of Net Metered Customer-generator facilities, by resource type;
 - iii. The total number of kWh received from Net Metered Customer-generators; and
 - iv. The total estimated amount of kWh produced by Net Metered Customer-generators, provided that this estimate does not require additional metering equipment.

(c) General Provisions

- (1) If a Customer-generator's Renewable Energy Generation system has been approved for interconnection under the interconnection rules in Section *[[reference state interconnection rules here]]*, the Electricity Provider shall not require a Customer-generator to test or perform maintenance on the Customer-generator's system except in the case of any testing or maintenance recommended by the system manufacturer.
- (2) An Electricity Provider shall have the right to inspect a Customer-generator's system during reasonable hours and with reasonable prior notice to the Customer-generator. If an Electricity Provider finds that the Customer-generator's system is not in compliance with the requirements of the interconnection rules in Section *[[reference state interconnection rules here]]* and the requirements of IEEE Standard 1547, and non-compliance adversely affects the safety or reliability of the Electricity Provider's facilities or of other

customers' facilities, the Electricity Provider may require the Customer-generator to disconnect the facility until compliance is achieved.

(3) Each Electricity Provider shall make Net Metering applications available through the Electricity Provider's website.⁶

(d) Meter aggregation

(1) For Customer-generators participating in meter aggregation, the following provisions apply:

- i. For the purpose of measuring electricity usage under these Net Metering rules, an Electricity Provider must, upon request from a Customer-generator, aggregate for billing purposes a meter to which the Net Metering facility is physically attached ("designated meter") with one or more meters ("additional meter") in the manner set out in this subsection. This rule is mandatory upon the Electricity Provider only when:
 - a. The additional meter is located on the Customer-generator's contiguous property;
 - b. The additional meter is used to measure only electricity used for the Customer-generator's requirements;
- ii. A Customer-generator must give at least 30 days notice to the Electricity Provider to request that additional meters be included in meter aggregation. The specific meters must be identified at the time of such request. In the event that more than one additional meter is identified, the Customer-generator must designate the rank order for the additional meters to which Net Metering credits are to be applied.
- iii. The Net Metering credits will apply only to charges that use kWh as the billing determinant. All other charges applicable to each meter account will be billed to the Customer-generator.
- iv. If in a monthly billing period, the Net Metering facility supplies more electricity to the Electricity Provider than the energy usage recorded by the Customer-generator's designated meter, the Electricity Provider will apply credits to additional meters in the rank order provided by the Customer-generator, and any remaining credits after doing so will be rolled over to the designated meter for use during the subsequent billing period.
- v. Customer-generators participating in meter aggregation do not have to have all meters on the same rate schedule.

⁶ In states or jurisdictions where wet signatures are not required, Electricity Providers shall accept applications online.

Kentucky Utilities Company

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Canceling P.S.C. No. 16, Original Sheet No. 57

Standard Rate Rider

NMS
Net Metering Service

APPLICABLE

In all territory served.

AVAILABILITY OF SERVICE

Available to any customer-generator who owns and operates a generating facility located on Customer's premises that generates electricity using solar, wind, biomass or biogas, or hydro energy in parallel with Company's electric distribution system to provide all or part of Customer's electrical requirements, and who executes Company's written Application for Interconnection and Net Metering. The generation facility shall be limited to a maximum rated capacity of 30 kilowatts. This Standard Rate Rider is intended to comply with all provisions of the Interconnection and Net Metering Guidelines approved by the Public Service Commission of Kentucky, which can be found on-line at www.psc.ky.gov as Appendix A to the January 8, 2009 Order in Administrative Case No. 2008-00169.

METERING AND BILLING

Net metering service shall be measured using a single meter or, as determined by Company, additional meters and shall be measured in accordance with standard metering practices by metering equipment capable of registering power flow in both directions for each time period defined by the applicable rate schedule. This net metering equipment shall be provided without any cost to the Customer. This provision does not relieve Customer's responsibility to pay metering costs embedded in the Company's Commission-approved base rates. Additional meters, requested by Customer, will be provided at Customer's expense.

If electricity generated by Customer and fed back to Company's system exceeds the electricity supplied to Customer from the system during a billing period, Customer shall receive a credit for the net delivery on Customer's bill for the succeeding billing periods. Any such unused excess credits will be carried forward and drawn on by Customer as needed. Unused excess credits existing at the time Customer's service is terminated end with Customer's account and are not transferrable between customers or locations.

NET METERING SERVICE INTERCONNECTION GUIDELINES

General – Customer shall operate the generating facility in parallel with Company's system under the following conditions and any other conditions required by Company where unusual circumstances arise not covered herein:

1. Customer to own, operate, and maintain all generating facilities on their premises. Such facilities shall include, but not be limited to, necessary control equipment to synchronize frequency, voltage, etc., between Customer's and Company's system as well as adequate protective equipment between the two systems. Customer's voltage at the point of interconnection will be the same as Company's system voltage.
2. Customer will be responsible for operating all generating facilities owned by Customer, except as specified hereinafter. Customer will maintain its system in synchronization with Company's system.

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: August 17, 2009

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

Issued by Authority of an Order of the
Public Service Commission in Case No.
2009-00548 dated July 30, 2010

KU EXHIBIT

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Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 57.1
Canceling P.S.C. No. 16, Original Sheet No. 57.1

Standard Rate Rider

NMS Net Metering Service

3. Customer will be responsible for any damage done to Company's equipment due to failure of Customer's control, safety, or other equipment.
4. Customer agrees to inform Company of any changes it wishes to make to its generating or associated facilities that differ from those initially installed and described to Company in writing and obtain prior approval from Company.
5. Company will have the right to inspect and approve Customer's facilities described herein, and to conduct any tests necessary to determine that such facilities are installed and operating properly; however, Company will have no obligation to inspect, witness tests, or in any manner be responsible for Customer's facilities or operation thereof.
6. Customer assumes all responsibility for the electric service on Customer's premises at and from the point of delivery of electricity from Company and for the wires and equipment used in connection therewith, and will protect and save Company harmless from all claims for injury or damage to persons or property occurring on Customer's premises or at and from the point of delivery of electricity from Company, occasioned by such electricity or said wires and equipment, except where said injury or damage will be shown to have been occasioned solely by the negligence or willful misconduct of Company.

Level 1 – A Level 1 installation is defined as an inverter-based generator certified as meeting the requirements of Underwriters Laboratories Standard 1741 and meeting the following conditions:

1. The aggregated net metering generation on a radial distribution circuit will not exceed 15% of the line section's most recent one hour peak load. A line section is the smallest part of the primary distribution system the generating facility could remain connected to after operation of any sectionalizing devices.
2. The aggregated net metering generation on a shared singled-phase secondary will not exceed 20 kVA or the nameplate rating of the service transformer.
3. A single-phase net metering generator interconnected on the center tap neutral of a 240 volt service shall not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
4. A net metering generator interconnected to Company's three-phase, three-wire primary distribution lines, shall appear as a phase-to-phase connection to Company's primary distribution line.
5. A net metering generator interconnected to Company's three-phase, four-wire primary distribution lines, shall appear as an effectively grounded source to Company's primary distribution line.
6. A net metering generator will not be connected to an area or spot network.
7. There are no identified violations of the applicable provisions of IEEE 1547, "Standard for Interconnecting Distributed Resources with Electric Power Systems".
8. Company will not be required to construct any facilities on its own system to accommodate the net metering generator.

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ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

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Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 57.2
Canceling P.S.C. No. 16, Original Sheet No. 57.2

Standard Rate Rider

NMS Net Metering Service

NET METERING SERVICE INTERCONNECTION GUIDELINES (continued)

Customer desiring a Level 1 interconnection shall submit a "LEVEL 1 - Application for Interconnection and Net Metering." Company shall notify Customer within 20 business days as to whether the request is approved or, if denied, the reason(s) for denial. If additional information is required, the Company will notify Customer, and the time between notification and submission of the information shall not be counted towards the 20 business days. Approval is contingent upon an initial inspection and witness test at the discretion of Company.

Level 2 – A Level 2 installation is defined as generator that is not inverter-based; that uses equipment not certified as meeting the requirements of Underwriters Laboratories Standard 1741, or that does not meet one or more of the conditions required of a Level 1 net metering generator. A Level 2 Application will be approved if the generating facility meets the Company's technical interconnection requirements. Those requirements are available on line at www.lge-ku.com and upon request.

Customer desiring a Level 2 interconnection shall submit a "LEVEL 2 - Application for Interconnection and Net Metering." Company shall notify Customer within 30 business days as to whether the request is approved or, if denied, the reason(s) for denial. If additional information is required, the Company will notify Customer, and the time between notification and submission of the information shall not be counted towards the 30 business days. Approval is contingent upon an initial inspection and witness test at the discretion of Company.

Customer submitting a "Level 2 - Application for Interconnection and Net Metering will provide a non-refundable inspection and processing fee of \$100, and in the event that the Company determines an impact study to be necessary, shall be responsible for any reasonable costs of up to \$1,000 of documented costs for the initial impact study.

Additional studies requested by Customer shall be at Customer's expense.

CONDITIONS OF INTERCONNECTION

Customer may operate his net metering generator in parallel with Company's system when complying with the following conditions:

1. Customer shall install, operate, and maintain, at Customer's sole cost and expense, any control, protective, or other equipment on Customer's system required by Company's technical interconnection requirements based on IEEE 1547, NEC, accredited testing laboratories, and the manufacturer's suggested practices for safe, efficient and reliable operation of the net metering generating facility in parallel with Company's system. Customer bears full responsibility for the installation, maintenance and safe operation of the net metering generating facility. Upon reasonable request from Company, Customer shall demonstrate compliance.

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: April 17, 1999

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

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Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 57.3
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Standard Rate Rider

NMS Net Metering Service

CONDITIONS OF INTERCONNECTION (continued)

2. Customer shall represent and warrant compliance of the net metering generator with:
 - a) any applicable safety and power standards established by IEEE and accredited testing laboratories;
 - b) NEC, as may be revised from time-to-time;
 - c) Company's rules and regulations and Terms and Conditions, as may be revised by time-to-time by the Public Service Commission of Kentucky;
 - d) the rules and regulations of the Public Service Commission of Kentucky, as may be revised by time-to-time by the Public Service Commission of Kentucky;
 - e) all other local, state, and federal codes and laws, as may be in effect from time-to-time.
3. Any changes or additions to Company's system required to accommodate the net metering generator shall be Customer's financial responsibility and Company shall be reimbursed for such changes or additions prior to construction.
4. Customer shall operate the net metering generator in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics or otherwise interfere with the operation of Company's electric system. Customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Company to any of its other customers or to any electric system interconnected with Company's electric system.
5. Customer shall be responsible for protecting, at Customer's sole cost and expense, the net metering generating facility from any condition or disturbance on Company's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Company shall be responsible for repair of damage caused to the net metering generator resulting solely from the negligence or willful misconduct on the part of the Company.
6. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to Customer, Company shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance and operation of the net metering generator comply with the requirements of this rate schedule.
7. Where required by the Company, Customer shall furnish and install on Customer's side of the point of interconnection a safety disconnect switch which shall be capable of fully disconnecting Customer's net metering generator from Company's electric service under the full rated conditions of Customer's net metering generator. The external disconnect switch (EDS) shall be located adjacent to Company's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, Customer shall be responsible for ensuring the location of the EDS is properly and legibly identified for so long as the net metering generator is operational.

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ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

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Kentucky Utilities Company

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Standard Rate Rider

NMS
Net Metering Service

CONDITIONS OF INTERCONNECTION (continued)

The disconnect switch shall be accessible to Company personnel at all times. Company may waive the requirement for an external disconnect switch for a net metering generator at its sole discretion, and on a case by case basis.

8. Company shall have the right and authority at Company's sole discretion to isolate the generating facility or require the Customer to discontinue operation of the net metering generator if Company believes that:
 - a) continued interconnection and parallel operation of the net metering generator with Company's electric system creates or contributes (or may create or contribute) to a system emergency on either Company's or Customer's electric system;
 - b) the net metering generator is not in compliance with the requirements of this rate schedule, and the non-compliance adversely affects the safety, reliability or power quality of Company's electric system; or
 - c) the net metering generator interferes with the operation of Company's electric system.In non-emergency situations, Company shall give Customer notice of noncompliance including a description of the specific noncompliance condition and allow Customer a reasonable time to cure the noncompliance prior to isolating the Generating Facilities. In emergency situations, where the Company is unable to immediately isolate or cause Customer to isolate only the net metering generator, Company may isolate Customer's entire facility.
9. Customer agrees that, without the prior written permission from Company, no changes shall be made to the generating facility as initially approved. Increases in net metering generator capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components that meet UL 1741 certification requirements for Level 1 facilities and not resulting in increases in net metering generator capacity is allowed without approval.
10. Customer shall protect, indemnify and hold harmless Company and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by Customer or Customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining or operating Customer's net metering generator or any related equipment or any facilities owned by Company except where such injury, death or damage was caused or contributed to by the fault or negligence of Company or its employees, agents, representatives or contractors.

The liability of Company to Customer for injury to person and property shall be governed by the tariff(s) for the class of service under which Customer is taking service.

DATE OF ISSUE: January 31, 2013

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ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

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Kentucky Utilities Company

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Standard Rate Rider

NMS
Net Metering Service

CONDITIONS OF INTERCONNECTION (continued)

11. Customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial or other policy) for generating facilities. Customer shall upon request provide Company with proof of such insurance at the time that application is made for net metering.
12. By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Company does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
13. Customer's generating facility is transferable to other persons or service locations only after notification to the Company has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Company will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Company will notify Customer in writing and list what must be done to place the facility in compliance.
14. Customer shall retain any and all Renewable Energy Credits (RECs) generated by Customer's generating facilities.

DEFINITIONS

"Billing period" shall be the time period between the dates on which Company issues the customer's bills.

"Billing Period Credit" shall be the electricity generated by the customer that flows into the electric system and which exceeds the electricity supplied to the customer from the electric system during any billing period.

TERMS AND CONDITIONS

Except as provided herein, service will be furnished under Company's Terms and Conditions applicable hereto.

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: April 17, 1999

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

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Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 57.6
Canceling P.S.C. No. 16, Original Sheet No. 57.6

Standard Rate Rider

NMS
Net Metering Service

LEVEL 1

Application for Interconnection and Net Metering

Use this application form only for a generating facility that is inverter based and certified by a nationally recognized testing laboratory to meet the requirements of UL 1741.

Submit this Application to:

Kentucky Utilities Company, Attn: Customer Commitment, P. O. Box 32010, Louisville, KY
40232

If you have questions regarding this Application or its status, contact KU at:

502-627-2202 or customer.commitment@lge-ku.com

Customer Name: _____ Account Number: _____

Customer Address: _____

Customer Phone No.: _____ Customer E-mail Address: _____

Project Contact Person: _____

Phone No.: _____ E-mail Address (Optional): _____

Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:

Energy Source: Solar Wind Hydro Biogas Biomass

Inverter Manufacturer and Model #: _____

Inverter Power Rating: _____ Inverter Voltage Rating: _____

Power Rating of Energy Source (i.e., solar panels, wind turbine): _____

Is Battery Storage Used: No Yes If Yes, Battery Power Rating: _____

Attach documentation showing that inverter is certified by a nationally recognized testing laboratory to meet the requirements of UL 1741.

Attach site drawing or sketch showing location of Utility's meter, energy source, (*optional: Utility accessible disconnect switch*) and inverter.

Attach single line drawing showing all electrical equipment from the Utility's metering location to the energy source including switches, fuses, breakers, panels, transformers, inverters, energy source, wire size, equipment ratings, and transformer connections.

Expected Start-up Date: _____

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: November 1, 2010

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

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2010-00204 dated September 30, 2010

Kentucky Utilities Company

P.S.C. No. 16, Original Sheet No. 57.7

Standard Rate Rider

NMS
Net Metering Service

LEVEL 2

Application for Interconnection and Net Metering

Use this application form when a generating facility is not inverter-based or is not certified by a nationally recognized testing laboratory to meet the requirements of UL 1741 or does not meet any of the additional conditions under Level 1.

Submit this Application, along with an application fee of \$100, to:

Kentucky Utilities Company, Attn: Customer Commitment, P. O. Box 32010, Louisville, KY 40232

If you have questions regarding this Application or its status, contact KU at:

502-627-2202 or customer.commitment@lge-ku.com

Customer Name: _____ Account Number: _____

Customer Address: _____

Project Contact Person: _____

Phone No.: _____ E-mail Address (Optional): _____

Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:

Total Generating Capacity of Generating Facility: ____

Type of Generator: ____ Inverter-Based ____ Synchronous ____ Induction

Power Source: ____ Solar ____ Wind ____ Hydro ____ Biogas ____ Biomass

Adequate documentation and information must be submitted with this application to be considered complete. Typically this should include the following:

1. Single-line diagram of the customer's system showing all electrical equipment from the generator to the point of interconnection with the Utility's distribution system, including generators, transformers, switchgear, switches, breakers, fuses, voltage transformers, current transformers, wire sizes, equipment ratings, and transformer connections.
2. Control drawings for relays and breakers.
3. Site Plans showing the physical location of major equipment.
4. Relevant ratings of equipment. Transformer information should include capacity ratings, voltage ratings, winding arrangements, and impedance.
5. If protective relays are used, settings applicable to the interconnection protection. If programmable relays are used, a description of how the relay is programmed to operate as applicable to interconnection protection.
6. A description of how the generator system will be operated including all modes of operation.
7. For inverters, the manufacturer name, model number, and AC power rating. For certified inverters, attach documentation showing that inverter is certified by a nationally recognized testing laboratory to meet the requirements of UL 1741.
8. For synchronous generators, manufacturer and model number, nameplate ratings, and impedance data (Xd, Xd, & Xd).
9. For induction generators, manufacturer and model number, nameplate ratings, and locked rotor current.

Customer Signature: _____ Date: _____

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: November 1, 2010

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

**Issued by Authority of an Order of the
Public Service Commission in Case No.
2009-00548 dated July 30, 2010 and
2010-00204 dated September 30, 2010**

Kentucky Utilities Company

P.S.C. No. 16, Second Revision of Original Sheet No. 5
Canceling P.S.C. No. 16, First Revision of Original Sheet No. 5

Standard Rate

RS RESIDENTIAL SERVICE

APPLICABLE

In all territory served.

AVAILABILITY OF SERVICE

Available for single phase delivery to single family residential service subject to the terms and conditions on Sheet No. 100 of this Tariff. Three phase service under this rate schedule is restricted to those customers being billed on this rate schedule as of July 1, 2004.

RATE

Basic Service Charge: \$10.75 per month

Plus an Energy Charge of: \$ 0.07744 per kWh

ADJUSTMENT CLAUSES

The bill amount computed at the charges specified above shall be increased or decreased in accordance with the following:

Fuel Adjustment Clause	Sheet No. 85
Demand Side Management Cost Recovery Mechanism	Sheet No. 86
Environmental Cost Recovery Surcharge	Sheet No. 87
Franchise Fee Rider	Sheet No. 90
School Tax	Sheet No. 91
Home Energy Assistance Program	Sheet No. 92

MINIMUM CHARGE

The Basic Service Charge shall be the minimum charge.

DUE DATE OF BILL

Customer's payment will be due within sixteen (16) business days (no less than twenty-two (22) calendar days) from the date of the bill.

LATE PAYMENT CHARGE

If full payment is not received by the due date of the bill, a 3% late payment charge will be assessed on the current month's charges. Beginning October 1, 2010, residential customers who receive a pledge for or notice of low income energy assistance from an authorized agency will not be assessed or required to pay a late payment charge for the bill for which the pledge or notice is received, nor will they be assessed or required to pay a late payment charge in any of the eleven (11) months following receipt of such pledge or notice.

TERMS AND CONDITIONS

Service will be furnished under Company's Terms and Conditions applicable hereto.

DATE OF ISSUE: December 3, 2013

DATE EFFECTIVE: With Bills Rendered On and After
December 31, 2013

ISSUED BY: /s/ Edwin R. Staton, Vice President
State Regulation and Rates
Lexington, Kentucky

Issued by Authority of Orders of the
Public Service Commission in Case No.
2013-00242 dated November 14, 2013

Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 100
Canceling P.S.C. No. 16, Original Sheet No. 100

TERMS AND CONDITIONS

Residential Rate Specific Terms and Conditions

Residential electric service is available for uses customarily associated with residential occupation, including lighting, cooking, heating, cooling, refrigeration, household appliances, and other domestic purposes.

1. Residential rates are based on service to single family units and are not applicable to multi-family dwellings served through a single meter. Where two or more families occupy a residential building, Company will require, as a condition precedent to the application of the residential rate, that the wiring in the building be so arranged as to permit each family to be served through a separate meter. In those cases where such segregation of wiring would involve undue expense to Customer, Company will allow service to two or more families to be taken through one meter, but in this event the minimum bills of the applicable residential rate shall be multiplied by the number of families thus served, such number of families to be determined on the basis of the number of kitchens in the building. At Customer's option, in lieu of the foregoing, electric service rendered to a multi-family residential building through a single meter will be classified as commercial and billed on the basis of service to one customer at an appropriate non-residential rate.
2. Single family unit service shall include usage of electric energy customarily incidental to home occupations, such as the office of a physician, surgeon, dentist, musician or artist when such occupation is carried on by Customer in his residence.
3. A residential building used by a single family as a home, which is also used to accommodate roomers or boarders for compensation, will be billed at the residential rate provided it does not exceed twelve (12) rooms in size. Such a residential building of more than twelve (12) rooms used to accommodate roomers or boarders for compensation will be classified as commercial and billed on the appropriate rate. In determining the room rating of rooming and boarding houses, all wired rooms shall be counted except hallways, vestibules, alcoves, closets, bathrooms, lavatories, garrets, attics, storage rooms, trunk rooms, basements, cellars, porches and private garages.
4. Service used in residential buildings occupied by fraternity or sorority organizations associated with educational institutions will be classified as residential and billed at the residential rate.
5. Where both residential and general or commercial classes of service are supplied through a single meter, such combined service shall be billed at the appropriate non-residential rate. Customer may arrange his wiring so as to separate the general service from the residential service, in which event two meters will be installed by Company and separate residential and general service rates applied to the respective classes of service.

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: February 6, 2009

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

**Issued by Authority of an Order of the
Public Service Commission in Case No.
2009-00548 dated July 30, 2010**

Kentucky Utilities Company

P. S. C. No. 16, First Revision of Original Sheet No. 100.1
Canceling P.S.C. No. 16, Original Sheet No. 100.1

TERMS AND CONDITIONS

Residential Rate Specific Terms and Conditions

6. If Customer's barns, pump house or other outbuildings are located at such distance from his residence as to make it impracticable to supply service thereto through his residential meter, the separate meter required to measure service to such remotely located buildings will be considered a separate service contract and billed as a separate customer on the applicable non-residential rate.
7. Single-phase power service used for domestic purposes will be permitted under Residential Rate RS when measured through the residential meter subject to the conditions set forth below:
 - (a) Single-phase motors may be served at 120 volts if the locked-rotor current at rated voltage does not exceed 50 amperes. Motors with locked-rotor current ratings in excess of 50 amperes must be served at 240 volts.
 - (b) Single-phase motors of new central residential cooling installations with total locked-rotor ratings of not to exceed 125 amperes (inclusive of any auxiliary motors arranged for simultaneous starting with the compressor) may be connected for across-the-line starting provided the available capacity of Company's electric distribution facilities at desired point of supply is such that, in Company's judgment, the starting of such motors will not result in excessive voltage dips and undue disturbance of lighting service and television reception of nearby electric customers. However, except with Company's express written consent, no new single-phase central residential cooling unit having a total lock-rotor rating in excess of 125 amperes inclusive of auxiliary motors arranged for simultaneous starting with the compressor) shall hereafter be connected to Company's lines, or be eligible for electric service therefrom, unless it is equipped with an approved type of current-limiting device for starting which will reduce the initial and incremental starting current inrush to a maximum of 100 amperes per step. Company shall be furnished with reasonable advance notice of any proposed central residential cooling installation.
 - (c) In the case of multi-motored devices arranged for sequential starting of the motors, the above rules are considered to apply to the locked-rotor currents of the individual motors; if arranged for simultaneous starting of the motors, the rules apply to the sum of the locked-rotor currents of all motors so started.
 - (d) Any motor or motors served through a separate meter will be billed as a separate customer.

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: February 6, 2009

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

**Issued by Authority of an Order of the
Public Service Commission in Case No.
209-00548 dated July 30, 2010**

Kentucky Utilities Company

P.S.C. No. 16, Second Revision of Original Sheet No. 79
Canceling P.S.C. No. 16, First Revision of Original Sheet No. 79

Standard Rate

LEV
Low Emission Vehicle Service

APPLICABLE

In the territory served.

AVAILABILITY OF SERVICE

LEV shall be available as option to customers otherwise served under rate schedule RS to encourage off-peak power for low emission vehicles.

- 1) LEV is a three year pilot program that may be restricted to a maximum of one hundred (100) customers eligible for Rate RS (or GS where the GS service is used in conjunction with an RS service to provide service to a detached garage and energy usage is no more than 300 kWh per month) in any year and shall remain in effect until modified or terminated by order of the Commission. Company will accept applications on a first-come-first-served basis.
- 2) This service is restricted to customers who demonstrate power delivered to premises is consumed, in part, for the powering of low emission vehicles licensed for operation on public streets or highways. Such vehicles include:
 - a) battery electric vehicles or plug-in hybrid electric vehicles recharged through a charging outlet at Customer's premises,
 - b) natural gas vehicles refueled through an electric-powered refueling appliance at Customer's premises.
- 3) A customer exiting the pilot program or disconnected for non-payment may not be allowed to return to it until the Commission has issued a decision on the pilot program report.
- 4) Company will file a report on LEV with the Commission within six months after the first three years of implementation of the pilot program. Such report will detail findings and recommendations.

RATE

Basic Service Charge:	\$10.75 per month
Plus an Energy Charge:	
Off Peak Hours:	\$0.05587 per kWh
Intermediate Hours:	\$0.07763 per kWh
Peak Hours:	\$0.14297 per kWh

ADJUSTMENT CLAUSES

The bill amount computed at the charges specified above shall be increased or decreased in accordance with the following:

Fuel Adjustment Clause	Sheet No. 85
Demand Side Management Cost Recovery Mechanism	Sheet No. 86
Environmental Cost Recovery Surcharge	Sheet No. 87
Franchise Fee Rider	Sheet No. 90
School Tax	Sheet No. 91
Home Energy Assistance Program	Sheet No. 92

DATE OF ISSUE: December 3, 2013

DATE EFFECTIVE: With Bills Rendered On and After
December 31, 2013

ISSUED BY: /s/ Edwin R. Staton, Vice President
State Regulation and Rates
Lexington, Kentucky

Issued by Authority of Orders of the
Public Service Commission in Case No.
2013-00242 dated November 14, 2013

Kentucky Utilities Company

P.S.C. No. 16, Original Sheet No. 79.1

Standard Rate

LEV
Low Emission Vehicle Service

DETERMINATION OF PRICING PERIODS

Pricing periods are established in Eastern Standard Time year round by season for weekdays and weekends. The hours of the pricing periods for the price levels are as follows:

Summer Months of May through September

	<u>Off-Peak</u>	<u>Intermediate</u>	<u>Peak</u>
Weekdays	10 PM - 10 AM	10 AM - 1 PM 7 PM - 10 PM	1 PM - 7 PM
Weekends	All Hours		

All Other Months of October continuously through April

	<u>Off Peak</u>	<u>Intermediate</u>	<u>Peak</u>
Weekdays	10 PM - 6 AM	12 Noon - 10 PM	6 AM - 12 Noon
Weekends	All Hours		

MINIMUM CHARGE

The Basic Service Charge shall be the minimum charge.

DUE DATE OF BILL

Customer's payment will be due within sixteen (16) business days (no less than twenty-two (22) calendar days) from the date of the bill.

LATE PAYMENT CHARGE

If full payment is not received by the due date of the bill, a 3% late payment charge will be assessed on the current month's charges.

TERMS OF CONTRACT

For a fixed term of not less than one (1) year and for such time thereafter until terminated by either party giving thirty (30) days written notice to the other of the desire to terminate.

TERMS AND CONDITIONS

Service will be furnished under Company's Terms and Conditions applicable hereto. Customers served under this optional pilot program will not be eligible for Company's Budget Payment Plan. Company shall install metering equipment capable of accommodating the Time of Use rate described herein.

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: January 1, 2013

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

Issued by Authority of an Order of the
Public Service Commission in Case No.
2012-00221 dated December 20, 2012

Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 55
Canceling P.S.C. No. 16, Original Sheet No. 55

Standard Rate Rider

SQF

Small Capacity Cogeneration and Small Power Production Qualifying Facilities

APPLICABLE:

In all territory served.

AVAILABILITY OF SERVICE

This rate and the terms and conditions set out herein are available for and applicable to Company's purchases of energy only from the owner of qualifying cogeneration or small power production facilities of 100 kW or less (such owner being hereafter called "Seller") installed on Seller's property to provide all or part of its requirements of electrical energy, or from which facilities Seller may elect to sell to Company all or part of such output of electrical energy.

Company will permit Seller's generating facilities to operate in parallel with Company's system under conditions set out below under "Parallel Operation".

Company will purchase such energy from Seller at the Rate, A or B, set out below and selected as hereafter provided, and under the terms and conditions stated herein. Company reserves the right to change the said Rates, upon proper filing with and acceptance by the jurisdictional Commission.

RATE A: TIME-DIFFERENTIATED RATE

1. For summer billing months of June, July, August and September, during the hours 9:01 A.M. thru 10:00 P.M. weekdays exclusive of holidays (on-peak hours), \$0.03636 per kWh
2. For winter billing months of December, January and February, during the hours 7:01 A.M. thru 10:00 P.M. weekdays exclusive of holidays (on-peak hours), \$0.03040 per kWh
3. During all other hours (off-peak hours) \$0.02822 per kWh

Determination of On-Peak and Off-Peak Hours: On-peak hours are defined as the hours of 9:01 A.M. through 10:00 P.M., E.D.T. (8:01 A.M. through 9:00 P.M., E.S.T.), Mondays through Fridays exclusive of holidays (under 1 above), and the hours of 7:01 A.M. through 10:00 P.M., E.D.T. (6:01 A.M. through 9:00 P.M., E.S.T.), Mondays through Fridays exclusive of holidays (under 2 above). Off-peak hours are defined as all hours other than those listed as on-peak (under 3 above). Company reserves the right to change the hours designated as on-peak from time to time as conditions indicate to be appropriate.

RATE B: NON-TIME-DIFFERENTIATED RATE

For all kWh purchased by Company, \$0.02949 per kWh

DATE OF ISSUE: May 9, 2013

DATE EFFECTIVE: June 30, 2012

ISSUED BY: /s/ Edwin R. Staton, Vice President
State Regulation and Rates
Lexington, Kentucky

Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 55.1
Canceling P.S.C. No. 16, Original Sheet No. 55.1

Standard Rate Rider

SQF

Small Capacity Cogeneration and Small Power Production Qualifying Facilities

SELECTION OF RATE AND METERING

Subject to provisions hereafter in this Section relative to payment of costs of metering equipment, either Seller or Company may select Rate A, the Time-Differentiated Rate, for application to Company's said purchases of energy from Seller. If neither Seller nor Company selects Rate A, then Rate B, the Non-Time-Differentiated Rate, shall apply.

If neither Seller nor Company selects Rate A, and Rate B therefore is to apply to such purchases, Company, at Seller's cost, will install, own and operate a non-time-differentiated meter and associated equipment, at a location selected by Company, measuring energy, produced by Seller's generator, flowing into Company's system. Such meter will be tested at intervals prescribed by Commission Regulation, with Seller having a right to witness all such tests; and Seller will pay to Company its fixed cost on such meter and equipment, expense of such periodic tests of the meter and any other expenses (all such costs and expenses, together, being hereafter called "costs of non-time-differentiated metering").

If either Seller or Company selects Rate A to apply to Company's said purchases of energy from Seller, the party (Seller or Company) so selecting Rate A shall pay (a) the cost of a time-differentiated recording meter and associated equipment, at a location selected by Company, measuring energy, produced by Seller's generator, flowing into Company's system, required for the application of Rate A, in excess of (b) the costs of non-time-differentiated metering which shall continue to be paid by Seller.

In addition to metering referred to above, Company at its option and cost may install, own and operate, on Seller's generator, a recording meter to record the capacity, energy and reactive output of such generator at specified time intervals.

Company shall have access to all such meters at reasonable times during Seller's normal business hours, and shall regularly provide to Seller copies of all information provided by such meters.

PAYMENT

Any payment due from Company to Seller will be due within sixteen (16) business days (no less than twenty-two (22) calendar days) from date of Company's reading of meter; provided, however, that, if Seller is a customer of Company, in lieu of such payment Company may offset its payment due to Seller hereunder, against Seller's next bill and payment due to Company for Company's service to Seller as customer.

PARALLEL OPERATION

Company hereby permits Seller to operate its generating facilities in parallel with Company's system, under the following conditions and any other conditions required by Company where unusual conditions not covered herein arise:

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: January 1, 2013

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

Issued by Authority of an Order of the
Public Service Commission in Case No.
2012-00221 dated December 20, 2012

Kentucky Utilities Company

P.S. C. No. 16, First Revision of Original Sheet No. 55.2
Canceling P.S.C. No. 16, Original Sheet No. 55.2

Standard Rate Rider

SQF

Small Capacity Cogeneration and Small Power Production Qualifying Facilities

1. Prior to installation in Seller's system of any generator and associated facilities which are intended to be interconnected and operated in parallel with Company's system, or prior to the inter-connection to Company's system of any such generator and associated facilities already installed in Seller's system, Seller will provide to Company plans for such generator and facilities. Company may, but shall have no obligation to, examine such plans and disapprove them in whole or in part, to the extent Company believes that such plans and proposed facilities will not adequately assure the safety of Company's facilities or system. Seller acknowledges and agrees that the sole purpose of any Company examination of such plans is the satisfaction of Company's interest in the safety of Company's own facilities and system, and that Company shall have no responsibility of any kind to Seller or to any other party in connection with any such examination. If Seller thereafter proposes any change from such plans submitted to Company, prior to the implementation thereof Seller will provide to Company new plans setting out such proposed change(s).
2. Seller will own, install, operate and maintain all generating facilities on its plant site, such facilities to include, but not be limited to, (a) protective equipment between the systems of Seller and Company and (b) necessary control equipment to synchronize frequency and voltage between such two systems. Seller's voltage at the point of interconnection will be the same as Company's system voltage. Suitable circuit breakers or similar equipment, as specified by Company, will be furnished by Seller at a location designated by Company to enable the separation or disconnection of the two electrical systems. Except in emergencies, the circuit breakers, or similar equipment, will be operated only by, or at the express direction of, Company personnel and will be accessible to Company at all times. In addition, a circuit breaker or similar equipment shall be furnished and installed by Seller to separate or disconnect Seller's generator.
3. Seller will be responsible for operating the generator and all facilities owned by Seller, except as hereafter specified. Seller will maintain its system in synchronization with Company's system.
4. Seller will (a) pay Company for all damage to Company's equipment, facilities or system, and (b) save and hold Company harmless from all claims, demands and liabilities of every kind and nature for injury or damage to, or death of, persons and/or property of others, including costs and expenses of defending against the same, arising in any manner in connection with Seller's generator, equipment, facilities or system or the operation thereof.
5. Seller will construct any additional facilities, in addition to generating and associated (interface) facilities, required for interconnection unless Company and Seller agree to Company's constructing such facilities, at Seller's expense, where Seller is not a customer of Company. When Seller is a customer of Company and Company is required to construct facilities different than otherwise required to permit interconnection, Seller shall pay such additional cost of facilities. Seller agrees to reimburse Company, at the time of installation,

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: December 5, 1985

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

Issued by Authority of an Order of the
Public Service Commission in Case No.
2009-00548 dated July 30, 2010

Kentucky Utilities Company

P.S.C. No. 16, First Revision of Original Sheet No. 55.3
Canceling P.S.C. No. 16, Original Sheet No. 55.3

Standard Rate Rider

SQF

Small Capacity Cogeneration and Small Power Production Qualifying Facilities

or, if agreed to by both parties, over a period of up to three (3) years, for any facilities including any hereafter required (but exclusive of metering equipment, elsewhere herein provided for) constructed by Company to permit Seller to operate interconnected with Company's system. When interconnection costs are repaid over a period of time, such payments will be made monthly and include interest on the unpaid balance at the percentage rate equal to the capital costs that Company would experience at such time by new financing, based on Company's then existing capital structure, with return on equity to be at the rate allowed in Company's immediately preceding rate case.

6. Company will have the continuing right to inspect and approve Seller's facilities, described herein, and to request and witness any tests necessary to determine that such facilities are installed and operating properly; but Company will have no obligation to inspect or approve facilities, or to request or witness tests; and Company will not in any manner be responsible for Seller's facilities or any operation thereof.
7. Seller assumes all responsibility for the electric service upon Seller's premises at and from the point of any delivery or flow of electricity from Company, and for the wires and equipment used in connection therewith; and Seller will protect and save Company harmless from all claims for injury or damage to persons or property, including but not limited to property of Seller, occurring on or about Seller's premises or at and from the point of delivery or flow of electricity from Company, occasioned by such electricity or said wires and equipment, except where said injury or damage is proved to have been caused solely by the negligence of Company.
8. Each, Seller and Company, will designate one or more Operating Representatives for the purpose of contacts and communications between the parties concerning operations of the two systems.
9. Seller will notify Company's Energy Control Center prior to each occasion of Seller's generator being brought into or (except in cases of emergencies) taken out of operation.
10. Company reserves the right to curtail a purchase from Seller when:
 - (a) the purchase will result in costs to Company greater than would occur if the purchase were not made but instead Company, itself, generated an equivalent amount of energy; or
 - (b) Company has a system emergency and purchases would (or could) contribute to such emergency.Seller will be notified of each curtailment.

TERMS AND CONDITIONS

Except as provided herein, conditions or operations will be as provided in Company's Terms and Conditions.

DATE OF ISSUE: January 31, 2013

DATE EFFECTIVE: December 5, 1985

ISSUED BY: /s/ Lonnie E. Bellar, Vice President
State Regulation and Rates
Lexington, Kentucky

Issued by Authority of an Order of the
Public Service Commission in Case No.
2009-00548 dated July 30, 2010

Rate Effects of Parties' Positions

	<u>Rate</u>	<u>Consumption</u>	<u>Charge</u>
<u>Rate RS</u>	\$ 0.07744	9105	\$ 705.09
<u>Rate LEV</u>			
Peak	\$ 0.14297	415	\$ 59.33
Intermediate	\$ 0.07763	1893	\$ 146.95
Off Peak	\$ 0.05587	6797	\$ 379.75
Total		9105	\$ 586.03

Rate RS and Rider NMS

	<u>Net Consumption</u>	<u>Rate</u>	<u>Charge</u>
Rate RS	2745	\$ 0.07744	\$ 212.57
Total charge		\$ 212.57	

KU Tariff Applied to Short's Production and Consumption Projections on Rate LEV and Rider NMS

	<u>Summer</u>			<u>Winter</u>		
	<u>Net Consumption</u>	<u>Rate</u>	<u>Charge</u>	<u>Net Consumption</u>	<u>Rate</u>	<u>Charge</u>
Peak	(993)	\$ 0.14297	\$ -	(456)	\$ 0.14297	\$ -
Intermediate	(161)	\$ 0.07763	\$ -	(448)	\$ 0.07763	\$ -
Off Peak	1950	\$ 0.05587	\$ 108.95	2853	\$ 0.05587	\$ 159.40
Total	796		\$ 108.95	1949		\$ 159.40
Total charge		\$ 268.34				

Short's Position Applied to Short's Production and Consumption Projections on Rate LEV and Rider NMS

	Summer			Winter		
	Net Consumption	Rate	Charge	Net Consumption	Rate	Charge
Peak	(993)	\$ 0.14297	\$ (141.97)	(456)	\$ 0.14297	\$ (65.19)
Intermediate	(161)	\$ 0.07763	\$ (12.50)	(448)	\$ 0.07763	\$ (34.78)
Off Peak	1950	\$ 0.05587	\$ 108.95	2853	\$ 0.05587	\$ 159.40
Total	796		\$ (45.52)	1949		\$ 59.42
Total charge		\$ 13.90				

KU's Tariff Applied to Short's Production Projection and Adjusted Consumption Pattern on Rate LEV and Rider NMS

	Summer			Winter		
	Net Consumption	Rate	Charge	Net Consumption	Rate	Charge
Peak	0	\$ 0.14297	\$ -	0	\$ 0.14297	\$ -
Intermediate	0	\$ 0.07763	\$ -	0	\$ 0.07763	\$ -
Off Peak	796	\$ 0.05587	\$ 44.47	1949	\$ 0.05587	\$ 108.89
Total	796		\$ 44.47	1949		\$ 108.89
Total charge		\$ 153.36				