

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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

ORDER TO SATISFY OR ANSWER

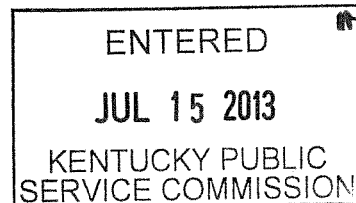
On May 15, 2013, the Commission received a letter from Jeff M. Short requesting Commission Staff to review the provisions of the net metering statute, as set forth in KRS 278.466, and express Staff's interpretation of that statute and the Commission's net metering policies. Specifically, Mr. Short references his interest in receiving electric service under time-of-use rates available in the Low Emission Vehicle Service tariff, which is offered by Kentucky Utilities Company ("KU"), and combining the time-of-use rates with net metering. Mr. Short suggests that any net excess generation credited to a net metering customer should be accounted for by the utility at a dollar value, not in units of electricity, as KU does. Based on Mr. Short's belief that crediting net excess generation in units of electricity discourages load shifting and is contrary to the intent of the net metering statute, he requests on behalf of all Kentucky consumers a Staff opinion on this issue.

Based on a review of Mr. Short's letter and being otherwise sufficiently advised, the Commission finds Mr. Short's letter should be treated as a formal complaint against his electric supplier, KU, and his letter should be deemed filed as a complaint as of the date of this Order. Therefore, KU is hereby notified that it has been named as a defendant in a formal complaint, a copy of which is attached hereto.

Pursuant to 807 KAR 5:001, Section 19, it is HEREBY ORDERED that:

1. Mr. Short's letter shall be considered filed today as a formal complaint against KU.
2. KU shall satisfy the matters complained of or file a written answer to Mr. Short's complaint within 15 days of the date of service of this Order.
3. Should documents of any kind be filed with the Commission in the course of this proceeding, the documents shall also be served on all parties of record.

By the Commission



ATTEST:

  
Executive Director

Case No. 2013-00287

Jeff M. Short  
9180 KY Hwy 78  
Stanford, KY 40484

May 14, 2013

RECEIVED

MAY 15 2013

PUBLIC SERVICE  
COMMISSION

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

Dear Mr. Derouen,

The object of this letter is my request that the KY Public Service Commission review KRS 278.466 and its current interpretation and application within KYs net metering (NEM) policies. I believe it possible that the fundamental intent of the statute has not been preserved and I have written the body of this letter and provide some data as explanation of the reasoning driving my request.

To my knowledge, my wife and I are among the first KY consumers in a circumstance where there exists a desire to combine "Time of Use" (TOU) electricity rates with NEM. Our utility has made TOU rates available through our participation in an LEV Pilot program. The rates have triggered an increased awareness of our home energy usage. The attachments (Charts 1,2 & 3) reflect changes at our home since starting TOU rates. I should qualify this data in that our home was well prepared to maximize the impact of recent improvements and that we have additional incentives for conservation beyond TOU rates in our desire to reduce emissions. However, we offer our result as a valid example of the potential for conservation and load shifting that exists among KY consumers. NEM using a renewable energy generator is a logical next step for us as it addresses both our peak flattening and emission reduction objectives. I identified solar (PV) as having clear advantages over other options mainly as it can strengthen TOU rate incentives for load shifting, the excess generation naturally occurs during high demand enhancing the peak flattening effect over load shift alone. (Chart 4, Table 1)

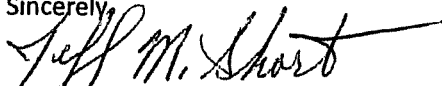
In investigating NEM, I went to the website of the Database for State Incentives for Renewables and Efficiency (DSIRE) and found that the Interstate Renewable Energy Council (IREC) had established a list of best practices for NEM and among them is: "Any customers net excess generation at the end of the billing period should be credited to the customers next bill as a kWh credit (i.e., at the utilities full retail rate) indefinitely, until the customer leaves the utility system." Additionally, when I choose KY on a US map I find information specific to KY net metering which state: "Net Excess Generation: Credited to customer's next bill at retail rate; carries over indefinitely". When I read KRS 278.466 (3) I interpret the verbiage "accounted for" specifically to mean that a kWh is converted to dollars when it passes the meter and that dollar value would obviously be the retail value in effect at that moment, be it a flat rate or a TOU meter. From this I anticipated a monthly bill that would simply reflect the net difference between the dollar values produced and used. A kWh having equal value on both sides of the meter seems fundamental to true "net" metering. Retail is the same value a generated kWh has if I consume it rather than allowing it to become "excess" and flow onto the grid. It is also the same value the utility would realize if it flowed onto the grid and thru another TOU meter to be consumed. Such interpretation allows a synergistic partnership between solar NEM and TOU rates. (Table 1) I feel there is nothing in the statutes verbiage that would preclude such interpretation.

Surprisingly, when I contacted my utility about NEM I was informed that excess customer generated kWhs would not acquire value as they flowed thru the meter but that they would remain without value as a "kWh credit" for the life of the account. I was also advised that a kWh credit could not be used to offset usage in any TOU period other than the one where it was generated. Such "locking" of credits to specific TOU periods creates conflict in that the load shift incentives of TOU rates are undermined as consumers would shift demand to the least expensive period, that period being the one having available credits. The policy renders solar NEM impractical for TOU customers as TOU demand is desirably off-peak and the majority of PV production naturally occurs in the other two TOU periods(Chart3). It appears that my utility would welcome my load shift but penalize me if I go beyond that and consider solar NEM, which I perceive as my best option. Regardless, I have delayed an application for NEM due to the conflict created by the policy and my own conservation objectives.

Above are two possible circumstances for KY consumers to have available based on applications of our statute, one where synergy exists and one where there is obvious conflict. Currently, I find myself in the latter praying to be in the former. I struggle to believe that the authors of a net metering statute would mention TOU rates if their fundamental intent was that the two concepts be applied in conflict or that their combination become less practical for KY consumers. Thus I have come to believe that the spirit of their intent has been lost in an interpretation that is allowing such a conflict to survive in KY.

I hope the LEV tariff and other TOU tariffs are offered permanently but with revisions that allow NEM to compliment them. It is thus my request that the KY PSC review the issue and provide staff opinion on clear interpretation of the statute and its fundamental intent regarding the combination of NEM and TOU rates such that conflicting policies and/or misinterpretation by any party can be avoided in the future. I believe the issue to be important for its potential impact on the rate at which KY moves forward with both programs. I consider this request my responsibility by virtue of having arrived in this circumstance in advance of many KY consumers who may follow a similar thought process as the programs are more broadly deployed. Please consider my request on behalf of all KY consumers, in the interests of our utility companies and in the interests of our Commonwealth as we work together to develop new strategies for energy conservation and management which are tied directly to our global environmental and societal impacts.

Sincerely,



Jeff M. Short, KY Consumer

Enclosures: 5

cc: F Howard Bush Jr., Kentucky Utilities Company

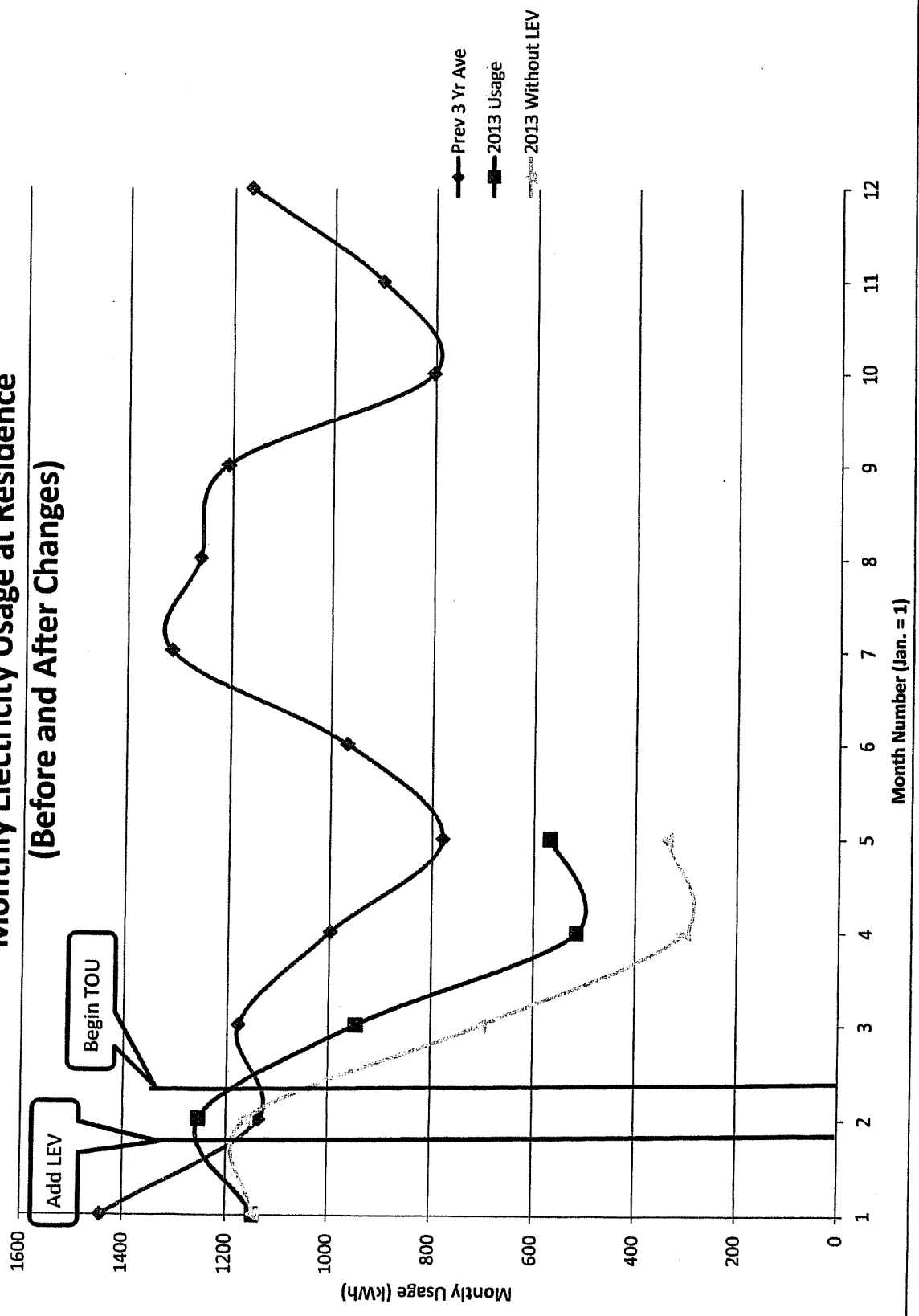
Senator Jared Carpenter, District 34

Representative David Meade, District 80

Kate Shanks, Department for Energy Development and Independence

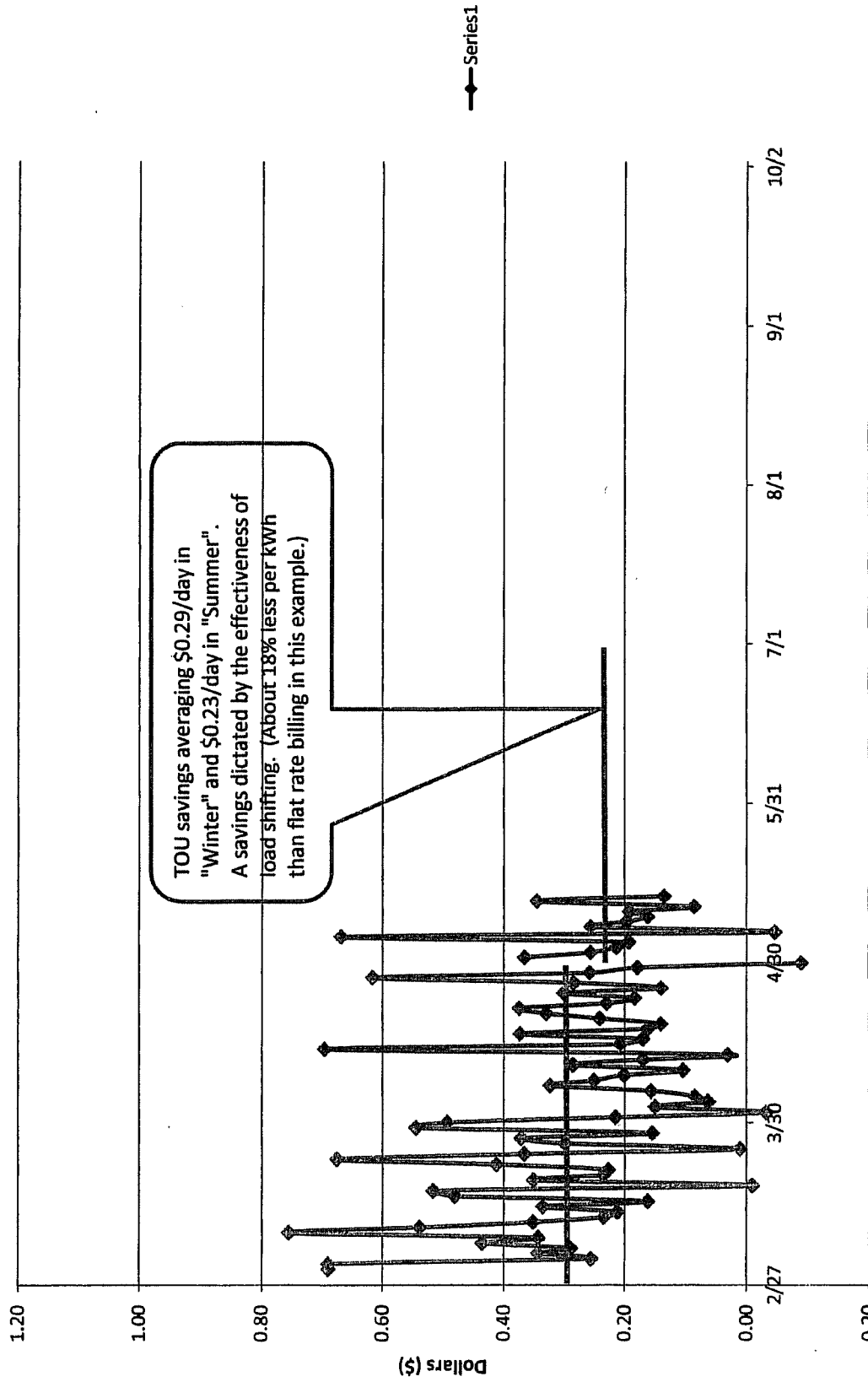
# Chart 1

## Monthly Electricity Usage at Residence (Before and After Changes)



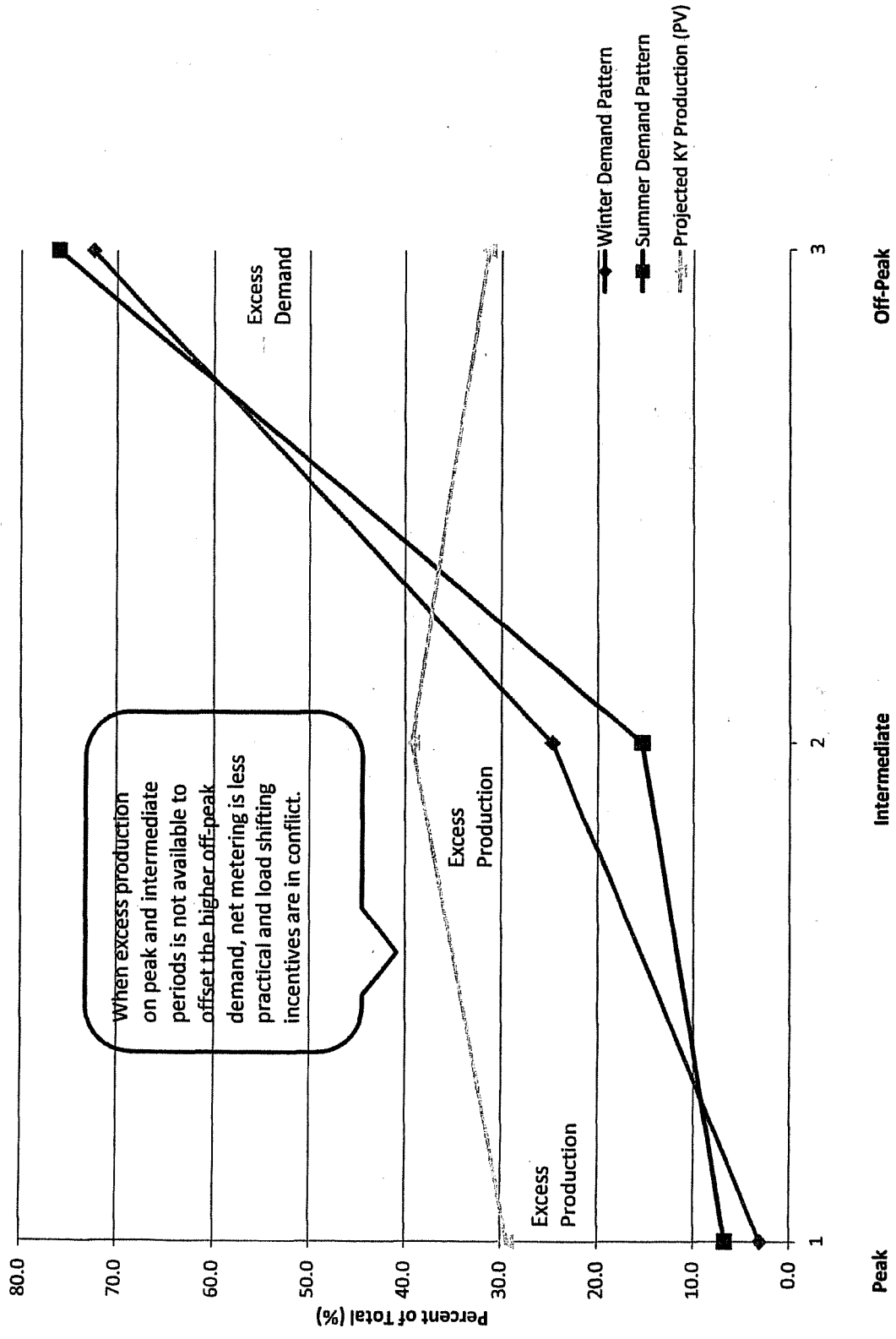
# Chart 2

## Daily Savings: Time of Use Rates vs Flat Rate



Date (Month/Day 2013)

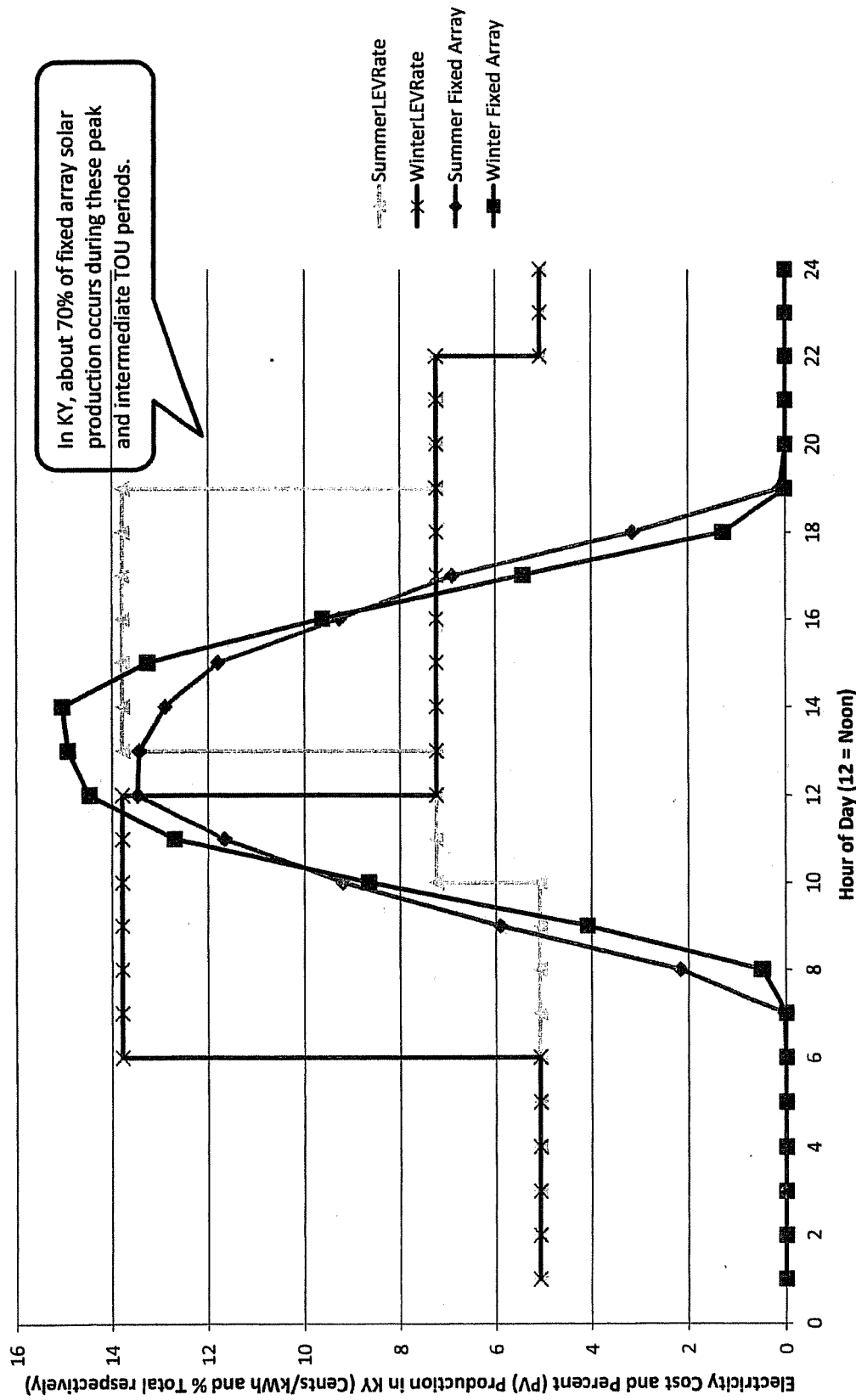
# Chart 3 Electricity Demand and Production Patterns



### Chart 4

## Solar Energy Production in Central KY

### Correlation with TOU Rate Schedules and Peak Demand





**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)	TOU Savings (\$/yr)
	9,106	6361	548.21	548.21	0.0735	668.95	120.73
Winter	57.8%	52.1%					
Summer	42.2%	47.9%					

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

Jeff Short  
9180 KY Hwy 78  
Stanford, KENTUCKY 40484

Ed Staton  
VP - State Regulation and Rates  
Kentucky Utilities Company  
220 W. Main Street  
P. O. Box 32010  
Louisville, KY 40232-2010