EAST KENTUCKY POWER COOPERATIVE

RECEIVED

MAY 18 2006

PUBLIC SERVICE COMMISSION

May 18, 2006

HAND DELIVERED

Ms. Elizabeth O'Donnell
Executive Director
Public Service Commission
211 Sower Boulevard
Frankfort, KY 40602

Re: Administrative Case No. 2006-00045

Dear Ms. O'Donnell:

Please find enclosed for filing with the Commission in the above-referenced case an original and seven (7) copies of the Prepared Testimonies of William A. Bosta and Paul A. Dolloff on behalf of East Kentucky Power Cooperative, Inc., and its Member Systems, pursuant to the procedural schedule established by the Commission's order dated February 24, 2006.

Very truly yours,

Charles A. Lile
Senior Corporate Counsel

Enclosures

Cc: Parties of Record

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TESTIMONY

WILLIAM A. BOSTA

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CONSIDERATION OF THE REQUIREMENTS OF THE FEDERAL ENERGY POLICY ACT OF 2005 REGARDING TIME-BASED METERING, DEMAND RESPONSE AND INTERCONNECTION SERVICE	))))))	**CASE NO. 2006-00045**

PREPARED TESTIMONY OF WILLIAM A. BOSTA
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.
AND ITS MEMBER DISTRIBUTION SYSTEMS

Q. Please state your name and address.

A. My name is William A. Bosta, East Kentucky Power Cooperative (EKPC), 4775 Lexington Road, Winchester, Kentucky 40391.

Q. By whom are you employed and in what capacity?

A. I am employed by East Kentucky Power Cooperative, Inc. as Manager of Pricing.

Q. As background for your testimony, please briefly describe your educational background and work responsibilities at East Kentucky Power Cooperative.

A. I have a Bachelor's Degree in Economics from Virginia Tech, Blacksburg, Virginia and a Master's Degree in Industrial Management from Lynchburg College, Lynchburg, Virginia. My professional career began as an Economist with the engineering consulting firm of Hayes, Seay, Mattern & Mattern in Roanoke, Virginia. I then worked in the rates and regulatory area for two AEP subsidiaries, Appalachian Power Company in Roanoke, Virginia and Indiana Michigan Power Company in Ft. Wayne, Indiana. In 1993, I

accepted a position in Regulatory Affairs at Kentucky Utilities Company in Lexington, Kentucky and was subsequently promoted to Director of Regulatory Management for LG&E Energy in Louisville, Kentucky following the merger of KU Energy and LG&E Energy in 1998. In May 2001, I was offered an opportunity to join the EKPC System as Pricing Manager and in June 2001 I assumed my current position. As Pricing Manager, I am responsible for rate and regulatory matters and issues at the Company and provide support services for all sixteen cooperatives on these issues. I report directly to the Vice President of Finance.

Q. Have you previously testified before the Public Service Commission?

A. Yes.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to discuss our position on the time-based pricing standard and Smart Metering portion of the Energy Policy Act of 2005 (EPAct). In the course of my discussion, I will describe the demand response tariffs offered by EKPC and its Member Systems and provide information on the number of retail participants and associated load made available to EKPC. Dr. Paul Dolloff of EKPC will provide information regarding certain aspects of Smart Metering and offer our position on the proposed Interconnection Standard contained in the 2005 EPAct.

Q. What demand response tariffs are available to retail customers in the EKPC System?

A. Exhibit WAB-1 provides a list and description of the time-of-day rates available to customers throughout the EKPC System. Included in the list are a number of industrial time-of-day rates, interruptible rates, several Special Contracts and Residential Electric Thermal Storage (ETS) rates.

Q. Have you identified the number of customers participating in these tariffs?

A. Yes. WAB Exhibit 1 provides the number of customers by tariff. I have determined that a total of 84 industrial and large commercial customers in the EKPC System have time-differentiated demand charge rates. In addition, there are currently six (6) interruptible rider customers and there were 4,780 Electric Thermal Storage (ETS) customers as of 12/31/04.

Q. Have you estimated the associated load available to EKPC as a result of these tariffs?

A. Yes, but only in part. EKPC estimates that the current interruptible tariff load (including the Special Contract with Gallatin Steel) on the System is about 170 MW and that, based on the most recent Integrated Resource Plan (IRP) filing for EKPC, the ETS Units on the System offered about 22 MW as of 2002. EKPC does not have an estimate of the effect of the large commercial and industrial time-of-day tariffs as EKPC has not conducted an analysis of load shifting for these customers.

Q. Do EKPC and its Member Systems have other demand response programs available to retail customers?

A. Yes. There are a number of programs available to retail customers, including incentives for high efficiency heat pumps, water heaters and geothermal systems, energy efficient homes and manufactured homes and various weatherization programs. In addition, free home energy audits are offered to residential customers and EKPC regularly assists commercial and industrial customers in offering ways to use energy more efficiently. These programs are described in detail in our response to Item 1, Staff Request 1, Smart Metering.

Q. Do you have an estimate of the associated load available as a result of these programs?

A. Yes. The 2003 EKPC IRP identified that the programs would result in a reduction in winter peak demand of about 60 MW. As mentioned above, about 22 MW result from the ETS program, leaving approximately 38 MW from the other demand response programs.

Q. What is your position on time-based metering?

A. EKPC and its Member Systems expect to continue to offer time-of-day price signals to large commercial and industrial customers to foster informed decisions about the advantages of shifting load to the off-peak time period. EKPC also expects to continue to offer demand response options such as interruptible rates. And, to the extent such large customers express an interest in real-time pricing, EKPC and its Member Systems would work with that customer to offer a satisfactory product. Continuation of these alternatives for large commercial and industrial customers is consistent with the intent of the 2005 EPAct and will be beneficial to EKPC and its Member Systems.

With regard to residential customers, EKPC and its Member Systems intend to continue to offer the many demand-side management programs described above. EKPC would encourage the Commission to continue to embrace these types of demand-side management programs.

EKPC and its Member Systems do not, however, endorse the concept of mandating the time-of-day metering for all residential customers.

Q. Why should the Commission not mandate the time-of-day metering for all residential customers?

A. The response to Items 3 and 4, Staff First Data Request, Smart Metering, provides details on why the Commission should not mandate time-of-day metering for all residential customers. A summary is provided below.

1) Costs of Metering

As indicated in the testimony of Dr. Dolloff, and described in the response to Item 3, Staff First Data Request, Smart Metering, the cost of implementing time-of-day metering is substantial.

2) Rate Levels of Utilities in Kentucky

As described in our response to Item 4, Staff Request 1, Smart Metering, Kentucky has maintained relatively low residential rates and the incremental difference between the on-peak and off-peak rate is lower than in other, higher cost states. As a result, it is more difficult for customers to save a significant amount of money when they do shift load to off-peak periods. In fact, residential customers that do not alter their consumption patterns may face a higher bill.

3) Time-of-Day Customers Should Pay for the Incremental Cost of Metering

Customers interested in moving to time-of-day rates should pay for the incremental cost of the meter. Otherwise, customers uninterested in participating will subsidize those customers who choose to participate. This is important because it is not certain that time-of-day rates for residential customers will result in direct peak demand reduction, and introduction of such rates may not benefit the EKPC System as a whole. As indicated in the Response to Item 4, Staff First Data Request, Smart Metering, the cost of a meter is about $4-$5 per month. This would have a significant affect on the savings garnered by price-induced load shifting.

4) Will the load shift occur at the time of peak?

In order for the time-of-day rate to be effective to the EKPC System, the load shift must occur at the time of the system peak. For residential customers, the most significant elements of load shift at the time of peak, the heating/cooling system and the water heater, would require a lifestyle change during cold/hot weather to effectuate a direct impact on peak load. Due to the factors of rate levels and cost of metering cited above, the customer may not shift load during the hottest or coldest hours of the year.

For all of these reasons, it is important that the Commission not mandate the time-of-day metering standard for all residential customers.

Q. In Staff's Second Data Request, a question was posed as to whether EKPC and its Member Systems would oppose a pilot program. Would you comment on that possibility?

A. Yes. EKPC and its Member Systems do not necessarily oppose a Pilot program but would support a pilot only under certain limited conditions. First, we believe that the Commission should authorize a survey of customers to see if the interest in Kentucky warrants the program. Second, if it is enacted, we recommend a statewide program where various utilities demonstrate and utilize selected technologies. Dr. Dolloff offers specific comments on this recommendation. And third, we recommend that EKPC be allowed to have a limited Pilot program for Blue Grass Energy and Nolin RECC, as those Member Systems already have advanced meter reading technology in place and can implement a pilot with limited cost. Dr. Dolloff expands on that recommendation as well in his testimony.

Q. Does this conclude your testimony?

A. Yes.

EXHIBIT WAB - 1

Members of East Kentucky Power
Rate Schedules With Time-of-Day Rates

Rate Schedule	Classification of Service	No. of Customers
Big Sandy RECC		
IND-1	Industrial - Over 1000 kW; Billing Demand Over 425 hrs	-
IND-2	Industrial - Over 5000 kW; Billing Demand Over 425 hrs	-
Blue Grass Energy - Nicholasville & Madison Districts		
GS-2	Off-Peak Retail Marketing Rate (ETS) - Residential, Farm & Non-Farm	115
GS-3	Residential, Farm & Non-Farm Time-of-Day Rate	
C-1	Large Industrial Rate - 1000-4999kW; Billing Demand Over 425 hrs	
C-2	Large Industrial Rate - 5000-9999kW; Billing Demand Over 425 hrs	
C-3	Large Industrial Rate - Over 10,000 kW; Billing Demand Over 425 hrs	
B-1	Large Industrial Rate - 1000-3999 kW; Billing Demand Over 425 hrs	
B-2	Large Industrial Rate - Over 3999 kW; Billing Demand Over 425 hrs	5
	Interruptible Service Rider (appl to LP-1, LP-2, LP, C-1, C-2, C-3, B-1	
	Voluntary Interruptible Service (appl to lp2, c1, c2, c3, b1, b2)	
Blue Grass Energy - Fox Creek District		
R2	Residential Marketing Rate - off Peak ETS	23
C1	Large Industrial Rate - 1,000 - 4,999 kW	
C2	Large Industrial - 5,000 - 9,999 kW	
C3	Large Industrial - Over 10,000 kW	
N	Industrial & Large Commercial - over 500 kW	1
B1	Large Industrial - 1,000 - 4,999	1
	Interruptible Service Rider (appl to M, N, B1, C1, C2, C3)	1
	Voluntary Interruptible Service (appl to lp2, c1, c2, c3, b1, b2, N)	
Blue Grass Energy - Harrison District		
Rate 1 ETS	Farm and Home Off-Peak Retail Marketing Rate (ETS)	580
LPR2 Rate 8	Large Power Service - 1,000 - 4,999 kW Demand	1
LPR2 Rate 8	Large Power Service - 5,000 - 9,999 kW Demand	
	Voluntary Interruptible Service (appl to lp2, c1, c2, c3, b1, b2)	
Clark Energy Cooperative		
R-TOD	Residential Service Time of Day	
D	Time of Use Marketing Service ETS	220
	Commercial ETS	1
H	General Power Service - 50 - 2500 kW - Single or Three-Phase	
G	General Power Service - 1000 - 5000 kW	
M	General Power Service - 1000 - 5000 kW	1
J	Industrial HLF - 1000 - 5000 kW	1
Cumberland Valley Electric		
I	Residential, Schools and Churches ETS	143
V	Large Power Rate - 1000 - 2500 kW; Billing Demand Over 425 hrs	
V-A	Large Power - Industsrial - Over 2500 kW; Billing Demand Over 425 hrs	
Farmers RECC		
D	Large Commercial / Industrial Service Optional Time-Of-Day Rate	5
E	Large Industrial Rate - 1000 - 4999 kW	3
RM	Residential Off-Peak Marketing ETS	324
CM	Small Commercial Off-Peak Marketing (ETS)	2
Fleming-Mason Energy		
	Interruptible Service Rider LGS, LIS1, LIS2, LIS3, LIS4, LIS5, LIS6, LIS4B, LIS5B, LIS6B	
RSP-ETS	Residential and Small Power - ETS	68
	Special Contract Inland	1
	Special Contract TGP	1
LIS 3	Large Industrial Service - Over 10,000 kW	
LIS 1	Large Industrial Service - 1000 - 4999 kW	
LIS 2	Large Industrial Service - 5000 - 9999 kW	
LIS 4	Large Industrial Service - 500 - 4999 kW	
LIS 5	Large Industrial Service - 5000 - 9999 kW; Billing Demand More than 400 hrs	
LIS 6	Large Industrial Service - Over 10,000 kW; Billing Demand More than 400 hrs	2
LIS 4B	Large Industrial Service - 500 - 4999 kW; Billing Demand More than 400 Hrs	
LIS 5B	Large Industrial Service - 5000 - 9999 kW; Billing Demand More than 400 hrs	
LIS 6B	Large Industrial Service - Over 10,000 kW; Billing Demand More than 400 hrs	
Grayson RECC		
3	Off-Peak Retail Marketing Rate ETS	88
12(a)	Large Industrial Service - 500 - 4999 kW	
12(b)	Large Industrial Service - 5000 - 9999 kW	
12(c)	Large Industrial Service - 10000 kW and Over	
13(a)	Large Industrial Service - HLF - 500 - 4999 kW	1

Rate Schedule	Classification of Service	No. of Customers
13(b)	Large Industrial Service - HLF - 5000 - 9999 kW	
13(c)	Large Industrial Service - HLF - 10000 kW and Over	
14(a)	Large Industrial Service - MLF - 500 - 4999 kW	
14(b)	Large Industrial Service - MLF - 5000 - 9999 kW	
14(c)	Large Industrial Service - MLF - 10000 kW and Over	
Sched D	Involuntary Interruptible Service (appl to Schedules 4, 12, 13, 14 a, b, c)	
Sched F	Voluntary Interruptible Service (appl to Schedules 4, 12, 13, 14 a, b, c)	
Sched 17	Water Pumping Service	
Inter-County Energy		
1-A	Farm and Home Marketing Rate (ETS)	80
B1	Large Industrial Rate - 500 - 4999 kW	8
B2	Large Industrial Rate - 5000 - 9999 kW	-
B3	Large Industrial Rate - 10000 kW or Greater	-
C1	Large Industrial Rate - 500 - 4999 kW	1
C2	Large Industrial Rate - 5000 - 9999 kW	-
C3	Large Industrial Rate - 10,000 kW or Greater	-
	Interruptible Service Rider - Sch 4, B1, B2, B3, C1, C2, C3	
	Voluntary Interruptible Svce Rider - Sch B, C	
Jackson Energy Cooperative		
11	Residential, Farm and Non-Farm Service Off-Peak ETS	1,185
12	Residential Service Tariff (Time of Day Service)	-
21	Commercial, Small Power, and Three-Phase Farm Service (Time of Day)	-
22	Commercial, Small Power, and Three-Phase Farm Svce -- Off Peak ETS	19
34	Water Pumping Service (Time of Day)	-
46	Large Power Rate - 500 kW and Over	3
47	Large Power Rate - 500 - 4999 kW	3
48	Large Power Rate - 5,000 kW and above	-
49	Large Power Rate - 10000 kW and Over	-
	Interruptible Service Rider - Sch 43, 46, 47, 48	
Nolin RECC		
8	Seasonal Time of Day More than 500 kW	
9	Industrial - 1000 - 4999 kW	
10	Industrial - 5000 - 9999 kW	1
11	Industrial - More than 10,000 kW	1
12	Industrial C - 1000 - 4999 kW	
13	Industrial C - 5000 - 9999 kW	
14	Industrial C - More than 10,000 kW	
	Special Contract AGC Automotive	
15	Interruptible - 250 - 20000 kW	1
Owen Electric Cooperative		
I-A	Farm and Home Off Peak Marketing Rate	
I	Farm & Home - Experimental Residential Service - Time of Day	
VIII	Large Industrial Rate LPC1 - 1000 - 2499 kW	
IX	Large Industrial Rate LPC2 - 5000 kW and Over	
X	Large Industrial Rate LPC1-A - 2500 - 4999 kW	
XI	Large Industrial Rate LPB1 - 1000 - 2499 kW	8
XII	Large Industrial Rate LPB1-A - 2,500 - 4,999 kW	1
XIII	Large Industrial Rate LPB2 - 5000 kW and Over	1
XIV	Large Industrial Rate LPB - 500-999 kW	3
	Special Countract - Gallatin	1
	ETS Only	8
1-B	Farm & Home Time of Day	
1-C	Small Commercial - Time of Day	
2-A	Large Power - Time of Day	
14	Voluntary Interruptible Service Sch 2, 2a,8,9,10,11,12,13	
15	Commercial & Industrial Interruptible Service - appl to 2, 2a, 8,9,10,11,12, 13	2
Salt River Electric		
A-5 TODa	Farm and Home Service (Time of Day) Option A	
A-5 TODb	Farm and Home Service (Time of Day) Option B	
A-5T-TODa	Farm and Home Service Taxable (Time of Day) Option A	
A-5T-TODb	Farm and Home Service Taxable (Time of Day) Option B	
R-1	Residential Marketing Rate - Off-Peak	-
LLP-3-B1	Large Power - 500 - 999 kW	
LLP-3-C1	Large Power - 500 - 999 kW	
LLP-4-B1	Large Power - 1000 - 2999 kW	4
LLP-4-C1	Large Power - 1000 - 2999 kW	

Rate Schedule	Classification of Service	No. of Customers
LPR-2	Large Power - 3000 kW and Over - Dedicated Substation	
LPR-3	Large Power - 3000 kW and Over - Dedicated Substation	
LPR-1-B1	Large Power - 3000 - 4999 kW	
LPR-1-C1	Large Power - 3000 - 4999 kW	
LPR-1-B2	Large Power - 5000 - 9999 kW	1
LPR-1-C2	Large Power - 5000 - 9999 kW	
LPR-1-B3	Large Power - 10,000 and Over	
LPR-1-C3	Large Power - 10,000 and Over	
LPR-INT	Interruptible - 250 - 20000 kW	1
Shelby Energy Cooperative		
5	Off-Peak Retail Marketing Rate (Attachment to GS-1 and Rate 10)	146
B1	Large Industrial Rate - 500 - 4999 kW	11
B2	Large Industrial Rate - 5000 - 9999 kW	2
B3	Large Industrial Rate - 10000 kW or Greater	
C1	Large Industrial Rate - 500 - 4999 kW	
C2	Large Industrial Rate - 5000 - 9999 kW	
C3	Large Industrial Rate - 10000 kW or Greater	
	Interruptible - 250 - 20000 kW (Sch 2,4,22,B1, B2, B3, C1, C2, C3)	1
22	Optional TOD Demand - Over 200 kW	-
23	Voluntary Interruptible Service (Sch 2, 4, 22, B1, B2, B3, C1, C2, C3)	
South Kentucky RECC		
A	Residential, Farm and Non-Farm Service ETS Marketing Rate	1,762
B	Small Commercial Rate ETS Marketing Rate	2
	ETS TOD Project w/ EK new 1999	1
LP-1	Large Power Rate - 500 kW to 4999 kW	3
LP-2	Large Power Rate - 5000 - 9999 kW	1
LP-3	Large Power Rate - 500 kW to 2999 kW	5
ISR	Interruptible Service Rider - (LP, LP-1, LP-2, LP-3)	
Taylor County RECC		
R-1	Residential ETS	13
C1	Large Industrial Rate (500 - 4,999 kW)	1
C2	Large Industrial Rate (5,000 - 9,000 kW)	
C3	Large Industrial Rate (10,000 kW and over)	
B1	Large Industrial Rate (500 - 4,999 kW)	1
B2	Large Industrial Rate (5,000 - 9,000 kW)	
B3	Large Industrial Rate (10,000 kW and over)	
	Special Contract TGP	1
Total		4,870

Service Description

ETS - Load Management Time-of-Day Service/Provision - Available to customers who use devices with time-differentiated load characteristics that consume energy only during off-peak hours and store energy for use during on-peak hours. Customer is served under time-of-day energy charges.

Time-of-Day Service - mandatory tariff that includes time-differentiated demand charge. Customer may shift load to off-peak time period and reduce demand cost portion of bill. Includes special contracts with AGC Automotive and Inland Electric.

Interruptible Service - Available to customers that are willing to reduce load upon request by East Kentucky Power - G&T service provider. Customer receives a reduced demand charge for amounts reduced.

Voluntary Interruptible Service - Available to customers that are willing to reduce load upon request by East Kentucky Power - G&T service provider. Customer receives a payment for amounts reduced.

Special Contract - Owen Elec/Gallatin Steel - From 1995 through 2005, Gallatin Steel Company was served by Owen Electric under a Special Contract. That contract had pricing features which charged Gallatin for the incremental cost of energy incurred by EKPC to serve Gallatin's interruptible load. The current contract, effective in June 2005, has time-of-day rate features for both the demand and energy charges.

Special Contract - Taylor County RECC and Fleming-Mason / EKPC with Tennessee Gas Pipeline (TGP) - Taylor County RECC and Fleming-Mason Energy entered into Special Contracts with Tennessee Gas Pipeline (TGP) in 2001. These contracts have a real-time pricing element included. Depending on their load, TGP may be billed during on-peak hours using CINERGY hub energy prices. This provides a day-ahead price signal to the customer.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CONSIDERATION OF THE	)	
REQUIREMENTS OF THE FEDERAL	)	
ENERGY POLICY ACT OF 2005	)	**CASE NO.**
REGARDING TIME-BASED METERING,	)	**2006-00045**
DEMAND RESPONSE AND	)	
INTERCONNECTION SERVICE	)	

PREPARED TESTIMONY OF WILLIAM A. BOSTA
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.
AND ITS MEMBER DISTRIBUTION SYSTEMS

A F F I D A V I T

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

William A. Bosta, being duly sworn, states that he has read the foregoing prepared testimony and that he would respond in the same manner to the questions if so asked upon taking the stand, and that the matters and things set forth therein are true and correct to the best of his knowledge, information and belief.

William A. Bosta

Subscribed and sworn before me on this 18th day of May, 2006.

Peggy S. Duff
Notary Public

My Commission expires: December 8, 2009

TESTIMONY

PAUL A. DOLLOFF

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CONSIDERATION OF THE REQUIREMENTS OF THE FEDERAL ENERGY POLICY ACT OF 2005 REGARDING TIME-BASED METERING, DEMAND RESPONSE AND INTERCONNECTION SERVICE	))))))	**CASE NO. 2006-00045**

PREPARED TESTIMONY OF PAUL A. DOLLOFF
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.
AND ITS MEMBER DISTRIBUTION SYSTEMS

Q. Please state your name and address.

A. My name is Paul A. Dolloff, East Kentucky Power Cooperative, 4775 Lexington Road, Winchester, Kentucky 40391.

Q. By whom are you employed and in what capacity?

A. I am employed by East Kentucky Power Cooperative, Inc. as an electrical engineer.

Q. As background for your testimony, please briefly describe your educational background and work responsibilities at East Kentucky Power Cooperative.

A. I have a B.S. Electrical Engineering, Tennessee Technological University, an M.S. Electrical Engineering, Virginia Polytechnic Institute and State University and a Ph.D. Electrical Engineering, Virginia Polytechnic Institute and State University. At East Kentucky Power Cooperative (EKPC), I am an electrical engineer in the Corporate

Strategy and Technology Applications Department (formerly the Research and Development Department). I direct the Power Delivery portion of the EKPC research and development (R&D) program, including project and technology implementation on the EKPC transmission and distribution systems that are aimed at improving efficiency, reliability and reducing operating and maintenance costs. In addition, I was highly involved in the development of Kentucky's Net Metering Law and represented NRECA (~950 electric co-ops nationwide) on the IEEE working group that developed the Distributed Generation Interconnection Standard, IEEE 1547. I am also an adjunct faculty member in the Electrical and Computer Engineering Department at the University of Kentucky, teaching graduate level courses in electric power.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe and define the "Smart Metering" concept as envisioned by the 2005 EPAct, to identify the meter technology currently in place, provide the costs of installing and operating time-of-day meters and comment on the possibility of a Pilot program for Residential Time-of-Day rates. I will also discuss our position on the 2005 EPAct Interconnection Standard.

Q. Please define the term "Smart Metering."

A. The term Smart Metering has evolved into many definitions. In its most basic form, Smart Metering encompasses two distinct elements: Meters and Communication Systems. Smart meters are those that use technology to capture complex energy use information in addition to employing a communication system that can capture and

transmit the energy use information in real time or near real time. More complex Smart Metering systems allow for data to flow in two directions: from the utility to the customer and vise-versa.

One of the most basic forms of Smart Metering is to provide Time-Of-Use (TOU) or Time-Of-Day (TOD) rates. This functionality is a basic form of Smart Metering because information does not need to flow in two directions and a real-time communication infrastructure is not needed.

Q. Can time-based pricing programs be implemented without smart meters?

A. Unfortunately, the widely-used, standard, electro-mechanic electric revenue meter is not capable of providing consumption information suitable for time-based pricing programs. At a minimum, the consumer's electrical consumption will need to be divided between on-peak and off-peak hours so that time-based pricing programs can be offered.

One type of time-based pricing that can be offered using standard, electro-mechanical electric revenue meters would be a seasonal rate program as discussed in LG&E and KU's response to Item 2, PSC's First Data Request, Smart Metering, and EKPC's response to Item 10, PSC's Second Data Request.

Q. What type of metering is currently used by EKPC and its Member Systems?

A. As outlined in EKPC's response to Item 3, PSC's First Data Request, Smart Metering, seven of the Member Systems read their revenue meters manually, while the

remaining nine Member Systems use one of three automatic meter reading systems. The table below provides the meter reading technology used by each Member System.

Meter Reading Method and Technology Used at Each EKPC Member System

East Kentucky Member System	Meter Reading	Meter Reading Technology
Farmers Electric	Manual	Self-read
Fleming-Mason Electric	Manual	Contract
Inter-County Electric	Manual	Contract
Owen Electric	Manual	Contract
Shelby Energy	Manual	Contract
South Kentucky Electric	Manual	Contract
Taylor County Electric	Manual	Self-read
Big Sandy	Automatic	TWACS
Blue Grass Energy	Automatic	Hunt TS2
Clark Energy	Automatic	Hunt TS1
Cumberland Valley Electric	Automatic	Hunt TS1
Grayson Electric	Automatic	Hunt TS1
Jackson Energy	Automatic	TWACS
Licking Valley Electric	Automatic	Hunt TS1
Nolin Electric	Automatic	Hunt TS2
Salt River Electric	Automatic	Hunt TS1

Q. What would it cost East Kentucky Power and its Member Systems to implement TOD rates?

A. On the surface, offering TOD rates appears relatively simple. However, upon further investigation, the implementation of such a program is highly dependent upon the existing revenue metering system currently in place. As outlined in EKPC's response to Item 3 of the PSC's First Data Request, Smart Metering, implementing a TOD rate is an involved process and the level of effort required will vary depending upon how the electric utility currently performs monthly meter reads: Either manual monthly meter reads or automatic meter reading.

Exhibit PAD-1 provides the estimated fixed and variable costs to implement a TOD rate at each of the EKPC Member Systems. Note that this exhibit reflects an update to the information contained in Attachment 2 of the response to the Staff's First Data Request. The reason for this change is that it was determined that the TWACS meter reading modules can be reprogrammed from the office and a visit to each revenue meter is not required.

As shown in my exhibit, the cost of installing a time-of-day meter for residential customers is significant and it is extremely important that the Commission allow the electric utilities to recover all fixed and variable costs associated with offering TOD rates from those customers who elect to use TOD rates. Any other cost recovery method would result in time-of-day customers being subsidized by those customers who do not elect to use TOD rates.

Q. Would you please elaborate on the possibility of instituting a Pilot Program for Residential customers?

A. As indicated in Mr. Bosta's testimony and as stated in EKPC's response to Item 11, PSC's Second Data Request, EKPC and its Member Systems do not necessarily oppose instituting an experimental TOD pilot program for residential customers. We firmly believe that the Commission should consider authorizing a comprehensive survey to gauge customer interest in residential TOD rates prior to authorizing a pilot project.

The amount of effort required to offer a TOD pilot project is significant and would approach the level needed to offer TOD rates under a full implementation scenario.

Issues that will need to be addressed to perform a pilot program would include, but are not limited to, the following.

1. An experimental TOD tariff would have to be developed, written, and submitted to the Commission for approval.
2. For every customer on the TOD rate:
    a. For the majority of residential customers on the EKPC System, smart meters will need to be purchased, tested, installed, and approved by the Commission.
    b. Special exceptions in accounting and billing will have to take place, given that all software will not be updated for a pilot program.
3. The amount of effort to perform advertising and marketing of the pilot project could be significant.
4. For those without automatic meter reading systems, reading by exception will be required.
5. For those customers on the Hunt Technologies TS1 automatic meter reading system, time-of-use is not possible; therefore, manually reading by exception will have to occur.
6. For those using the Distribution Control Systems TWACS automatic meter reading system, the software development and accounting issues will be substantial.
7. If consumers on a TOD rate do not shift a percentage of their usage to off-peak hours, their monthly bill would actually be higher when compared to a non-

TOD rate. Therefore, a substantial educational effort to the consumers of Kentucky will be required to fully explain how TOD rates work.

Q. Please continue.

A. Should the Commission find it necessary to establish a TOD pilot project, East Kentucky Power and its Member Systems suggest that the Commission institute a collaborative, statewide program among all electric utilities under the Commission's jurisdiction in an effort to reduce costs for all. The Commission should ascertain all of the meter reading methods currently being used by all jurisdictional utilities. From that list of technologies, the Commission should then determine the challenges associated with implementing TOD rates for each meter reading technology. In a collaborative pilot program, the Commission would assign the demonstration of each meter reading technology to a single utility. Collectively, this approach would be a complete experimental pilot program demonstrating all meter reading technologies currently used by jurisdictional electric utilities. This cooperative approach would relieve the burden of having each and every electric utility wrestle with all of the issues involved with offering a time-of-use rate for multiple revenue meter reading technologies. The program should be supervised by the Commission, have clear goals and objectives, and have pre-determined and agreed upon metrics in place to determine if TOD rates would be beneficial to the consumers of Kentucky.

Under this cooperative approach, we would encourage the Commission to allow EKPC to demonstrate TOD rates by those Member Systems using the Hunt Technologies TS2 automatic meter reading system. Currently, two of the EKPC

Member Systems use the Hunt Technologies TS2 automatic meter reading system. A substantial cost savings would be realized by allowing these two Member Systems (Blue Grass Energy and Nolin RECC) to represent all 16 of the EKPC Member Systems because only two, not all 16, would bear costs to provide TOD rates. Additionally, the Hunt Technologies TS2 system is readily adaptable to providing TOD rates with limited effort and cost.

Other utilities outside the EKPC System that do not use the Hunt Technologies TS2 automatic meter reading system could demonstrate the issues involved with manual meter reading, while others could demonstrate integrating TOD rates for other automatic meter reading technologies. Collectively, this approach would be a complete experimental pilot program demonstrating many technologies by few electric utilities instead of having multiple demonstrations at numerous utilities.

In conclusion, East Kentucky Power and its Member Systems feel that TOD rates would provide minimal cost savings to the consumers of Kentucky. East Kentucky Power and its Member Systems would be in favor of a survey designed to gauge the willingness of the consumers to take advantage of time-of-use rates. If deemed necessary by the Commission, East Kentucky and its Member Systems suggest that the Commission institute a collaborative, statewide program among all electric utilities under the Commission's jurisdiction in an effort to reduce costs for all.

Interconnection Standards

Q. Would you please discuss the need for statewide interconnection standards?

A. Given that every utility under the Commission's jurisdiction serving customers in Kentucky currently have interconnection standards in place, the additional benefit to having statewide interconnection standards in Kentucky may be a duplication of effort. Interconnection standards are generally available for both generating and non-generating interconnections. The generating interconnection standards may not necessarily be broken down by rating (output) of generating facility. Generally, the higher the rating of the generating facility, the greater the likelihood for the installation to impact the system; however, there are many parameters that influence the utility's ability to accommodate a generating installation other than mere rating. For that reason, each and every generating interconnection is reviewed and a full engineering impact study is performed when necessary.

All electric utilities serving in Kentucky are governed by the North American Electric Reliability Council (NERC) and one of its eight Regional Reliability Councils and must adhere to the NERC Reliability Standard FAC-001, "Facility Connection Requirements."

Q. Do East Kentucky Power and its Member Systems comply with IEEE Standard 1547 for Distributed Generation of 10 MVA or less?

A. All of EKPC's interconnection standards reference all applicable IEEE standards. Therefore, IEEE Standard 1547 is included in all EKPC interconnection standards.

The net metering tariffs currently in place for the East Kentucky Member Systems were required to stipulate adherence to IEEE 1547.

Long before the release of IEEE 1547, electric utilities have had interconnection standards in place regarding distributed generation. The Federal program, the Public Utility Regulatory Policies Act of 1978 (PURPA), required all electric utilities to develop interconnection standards for Qualifying Facilities (QF). Generally, these QFs were in the form of distributed generation and the interconnection standards addressing QFs are still valid and in use today. IEEE Standard 1547 was developed, in part, to address new, emerging DG technologies with specific applications to distribution systems (not transmission). This standard applies to distributed generation systems of 10 MVA or less.

The existence of IEEE 1547 should not give the false impression that distributed generating systems of sizes up to 10 MVA can be interconnected to distribution systems without fear of adverse effects if IEEE 1547 is followed. The original framers of IEEE 1547 recognized that this standard is a set of minimum requirements, where more may be needed depending upon the installation. For instance, a distributed generation installation of 10 MVA approaches the capacity of a typical distribution substation on the East Kentucky System. Further, approximately 95% of all distribution systems, nation-wide, were initially designed for radial operation – power flow in only one direction. With the interconnection of a large DG system, the distribution system designed for radial flow is now asked to accommodate two-way power flow. It is clear that a substantial re-design may be required to ensure the safe and reliable operation of the distribution system.

Q. If the Commission decides to develop statewide interconnection standards, how should they proceed?

A. The most effective way for Kentucky to develop statewide interconnection standards would be to form a committee consisting of representatives from each of the jurisdictional electric utilities serving in the Commonwealth of Kentucky. Because each utility has different operational, equipment, communication, etc. standards, statewide interconnection standards should be developed under a consensus and negotiation effort among all affected utilities.

Developing a statewide interconnection standard under this scenario would require a sizable time commitment by all those involved. The development of the IEEE 1547 interconnection standard addressing only distributed generation interconnecting with distribution systems took over four years to complete. Given the magnitude of the work and the number of parties involved, the Commission should expect this to be a minimum of a two-year effort.

Should the Commission request the development of a statewide interconnection standard for small generators of 10 MVA and below, a two-year development period is likely. Though the IEEE 1547 interconnection standard will aid in the development of a statewide effort, this document is only a start. IEEE 1547 states that it is a minimum set of requirements and recognizes that there will be many other issues to consider.

Q. Is there a reasonable program that can be developed to take advantage of "Open Transition Customers" in a dire emergency?

A. "Open transition customers" are defined as those customers who have backup generating systems that never operate in parallel with the utility's grid. Basically, the

backup systems come on-line when they sense that the utility grid has suffered an outage and is de-energized. During such an event, the customer's electrical needs are served from the customer owned generating backup system.

In certain parts of the country, utilities have entered into agreements such that the utility can dispatch customer owned backup generating systems. These rare cases have taken place where the electrical load exceeds the utility's ability to deliver power to the load centers. Generally, these situations are of a temporary nature and are employed until the utility upgrades the power delivery system or utility owned generation is installed near the load center.

As stated in EKPC's response to Item 13, Staff's Second Data Request, EKPC and its Member Systems have only twice pursued the potential for having access to customer owned generation at times of peak demand or extreme emergency situations on our system. In both instances, the customer approached the utility and requested help designing and integrating a backup generation system. Neither opportunity resulted in utility control of the customers' generating equipment.

Though it is unclear how much customer owned backup generation is available system-wide, the vast majority will be fueled by diesel. Given the extremely high cost of diesel fuel, operating the natural gas fired combustion turbines owned and operated by East Kentucky Power is a far more attractive alternative, financially.

The cost to produce electricity from customer owned backup systems exceeds the cost to produce by East Kentucky Power, as explained above. Though the use of customer owned backup generation can often times relieve power flow congestion, this benefit

is of no value to the Member Systems of East Kentucky Power as their distribution systems are not congested.

Q. Does this conclude your testimony?

A. Yes.

EXHIBIT PAD - 1

Variable Costs

East Kentucky Member System	Meter Reading	Meter Replacement	Meter Install and Testing	Total Costs	Customers	2% on TOU	Recurring Annual Metering Reading Costs
Farmers Electric	Manual	$154,000	$66,000	$220,000	22,000	440	$5,280
Fleming Mason Electric	Manual	$105,000	$45,000	$150,000	15,000	300	$3,600
Inter-County Electric	Manual	$168,000	$72,000	$240,000	24,000	480	$5,760
Owen Electric	Manual	$371,000	$159,000	$530,000	53,000	1,060	$12,720
Shelby Energy	Manual	$98,000	$42,000	$140,000	14,000	280	$3,360
South Kentucky Electric	Manual	$420,000	$180,000	$600,000	60,000	1,200	$14,400
Taylor County Electric	Manual	$168,000	$72,000	$240,000	24,000	480	$5,760

East Kentucky Member System	Meter Reading	Meter Replacement	Reprogramming Costs *	Total Costs	Customers	2% on TOU	AMR System
Big Sandy	Automatic		**$6,000**	$6,000	12,000	240	TWACS
Blue Grass Energy	Automatic		$26,000	$26,000	52,000	1,040	TS2
Clark Energy	Automatic	$275,000	$75,000	$350,000	25,000	500	TS1
Cumberland Valley Electric	Automatic	$242,000	$66,000	$308,000	22,000	440	TS1
Grayson Electric	Automatic	$165,000	$45,000	$210,000	15,000	300	TS1
Jackson Energy	Automatic		***$25,000***	*$25,000*	*50,000*	*1,000*	TWACS
Licking Valley Electric	Automatic	$176,000	$48,000	$224,000	16,000	320	TS1
Nolin Electric	Automatic		$14,500	$14,500	29,000	580	TS2
Salt River Electric	Automatic	$462,000	$126,000	$588,000	42,000	840	TS1

Assumptions:

2% of existing customers will opt for Time of Use rates
Additional cost for meter reading is $1 average for all co-ops
$350 meter replacement cost
$550 meter replacement cost for TS1 AMR ($100 per AMR module, 2 required)
$150 meter testing and installation
AMR reprogramming costs:
  $150/meter for TS1 AMR
  $25/meter for TS2 AMR
* Revised to $25/meter for TWACS

Fixed Costs

East Kentucky Member System	Meter Reading	Self Read	Contract Meter Readers	Meter Reading Device Software	Accounting Software	Customer Billing Software	Total Costs
Farmers Electric	Manual	$3,000			$5,000	$10,000	$18,000
Fleming Mason Electric	Manual		$5,000	$1,000	$5,000	$10,000	$21,000
Inter-County Electric	Manual		$5,000	$1,000	$5,000	$10,000	$21,000
Owen Electric	Manual		$5,000	$1,000	$5,000	$10,000	$21,000
Shelby Energy	Manual		$5,000	$1,000	$5,000	$10,000	$21,000
South Kentucky Electric	Manual		$5,000	$1,000	$5,000	$10,000	$21,000
Taylor County Electric	Manual	$3,000			$5,000	$10,000	$18,000

East Kentucky Member System	Meter Reading	AMR System	AMR Software	Accounting Software	Customer Billing Software	Total Costs
Big Sandy	Automatic	TWACS	$10,000	$5,000	$10,000	$25,000
Blue Grass Energy	Automatic	TS2	$5,000	$5,000	$10,000	$20,000
Clark Energy	Automatic	TS1	$5,000	$5,000	$10,000	$20,000
Cumberland Valley Electric	Automatic	TS1	$5,000	$5,000	$10,000	$20,000
Grayson Electric	Automatic	TS1	$5,000	$5,000	$10,000	$20,000
Jackson Energy	Automatic	TWACS	$10,000	$5,000	$10,000	$25,000
Licking Valley Electric	Automatic	TS1	$5,000	$5,000	$10,000	$20,000
Nolin Electric	Automatic	TS2	$5,000	$5,000	$10,000	$20,000
Salt River Electric	Automatic	TS1	$5,000	$5,000	$10,000	$20,000

Assumptions:

Self Read: Includes bill stub/post card update and instructional flyer

Contract Meter Readers: Meter reading device reprogramming; $200/device, 25 devices/co-op

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CONSIDERATION OF THE	)	
REQUIREMENTS OF THE FEDERAL	)	
ENERGY POLICY ACT OF 2005	)	**CASE NO.**
REGARDING TIME-BASED METERING,	)	**2006-00045**
DEMAND RESPONSE AND	)	
INTERCONNECTION SERVICE	)	

PREPARED TESTIMONY OF PAUL A. DOLLOFF
ON BEHALF OF
EAST KENTUCKY POWER COOPERATIVE, INC.
AND ITS MEMBER DISTRIBUTION SYSTEMS

A F F I D A V I T

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Paul A. Dolloff, being duly sworn, states that he has read the foregoing prepared testimony and that he would respond in the same manner to the questions if so asked upon taking the stand, and that the matters and things set forth therein are true and correct to the best of his knowledge, information and belief.

Subscribed and sworn before me on this 18th day of May, 2006.

Notary Public

My Commission expires: December 8, 2009