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. 2006-00045
REGARDING TIME- BASED METERING,	)	
DEMAND RESPONSE AND	)	
INTERCONNECTION SERVICE	)	

DIRECT TESTIMONY OF

BRUCE L. SAILERS

ON BEHALF OF DUKE ENERGY KENTUCKY

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I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Bruce L. Sailers, and my business address is 139 E. Fourth Street, Cincinnati, Ohio 45202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am Load Control Development Manager for Duke Energy Shared Services, Inc. ("Duke Energy Shared Services"), a wholly-owned service company subsidiary of Duke Energy Corporation ("Duke Energy"). Duke Energy Shared Services provides various administrative services to The Union Light, Heat and Power Company d/b/a Duke Energy Kentucky ("Duke Energy Kentucky" or the "Company") and other Duke Energy affiliates.

Q. PLEASE BRIEFLY DESCRIBE YOUR DUTIES AS LOAD CONTROL DEVELOPMENT MANAGER.

A. I am responsible for identifying new load management and demand response programs and developing associated cost/benefit studies and evaluations. In addition, I work with existing load management programs as a resource to perform reporting and analysis related to pricing, cost/benefit evaluations, and program research.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION.

A. I received a Bachelor's of Business Administration degree from the University of Cincinnati in 1986, majoring in finance and quantitative analysis. I received a Masters of Business Administration, with a concentration in marketing, from the University of Cincinnati in 1992.

Q. PLEASE BRIEFLY DESCRIBE YOUR WORK EXPERIENCE.

I joined The Cincinnati Gas & Electric Company ("CG&E") in Load Forecasting in February 1990. I have since worked in several areas of the company including Load Forecasting, Market Research, and now Load Management Development.

Q. ARE YOU A MEMBER OF ANY PROFESSIONAL ORGANIZATIONS?

A. Yes. I am a member of the American Marketing Association ("AMA") and the Association of Energy Services Professionals.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. My testimony adopts and incorporates Duke Energy Kentucky's responses to the Commission's Data Requests which were initially sponsored by Dr. Richard G. Stevie, Head of the Market Analysis Department for Duke Energy Shared Services. I then present and explain Duke Energy Kentucky's position with respect to Demand response programs and Smart Metering. I also provide responses to the issues raised by the Kentucky Public Service Commission ("Commission") during its informal Conference on May 10, 2006. Lastly, I sponsor Attachments A and B.

II. DATA REQUESTS

Q. HAVE YOU REVIEWED DUKE ENERGY KENTUCKY'S RESPONSES TO THE DATA REQUESTS THAT HAVE BEEN SUBMITTED BY THE COMMISSION AND VARIOUS INTERVENORS IN THIS CASE?

A. Yes. The responses were prepared under the direction of Dr. Richard G. Stevie, my direct supervisor. The responses accurately reflect the position of Duke

Energy Kentucky. For the purposes of my testimony in this case, I incorporate and adopt the responses provided by Dr. Stevie.

III. DEMAND RESPONSE PROGRAMS

Q. PLEASE BRIEFLY EXPLAIN THE COMPANY'S POSITION WITH RESPECT TO DEMAND RESPONSE PROGRAMS.

A. Duke Energy Kentucky is committed to providing energy service to customers at a reasonable cost. Demand response programs are one tool we use to deliver this service. We currently participate in a Demand Side Management ("DSM") Collaborative effort in Kentucky to discuss energy efficiency and demand response programs. Through the collaborative process, programs are identified and evaluated. As programs are found to be cost-effective, we submit them to the Commission for approval. Duke Energy Kentucky supports cost-effective demand response programs.

Q. PLEASE BRIEFLY EXPLAIN THE CURRENT DEMAND RESPONSE PROGRAMS AND SERVICES OFFERED BY DUKE ENERGY KENTUCKY.

A. Attachment A identifies and describes the demand response programs offered to Duke Energy Kentucky customers. The Power Manager program is the one demand response program that originated within the DSM Collaborative. The other programs are rate options that have existed for many years. Attachment B identifies Duke Energy Kentucky's current Time-Based Metering/Demand Response Tariff Provisions and provides information on each program, including the number of customers participating and the estimated load response from the

program. This information is provided by customer class and this is a brief description for each tariff/service.

Q. PLEASE PROVIDE AN ESTIMATE OF THE ASSOCIATED LOAD THAT IS AVAILABLE FROM THESE CUSTOMERS BECAUSE OF DEMAND RESPONSE.

A. Estimated demand response impacts are provided in Attachment B.

Q. PLEASE BRIEFLY DESCRIBE THE TIME-BASED SCHEDULES SET FORTH IN THE ENERGY POLICY ACT OF 2005.

A. The Energy Policy Act of 2005 ("EPAct 2005") describes four time-based schedules. They include: (1) Time-of-use ("TOU") Pricing whereby electricity prices are set for a specific time period on an advance or forward basis, typically not changing more often than twice a year, based on the utility's cost of generating and/or purchasing such electricity at the wholesale level for the benefit of the consumer. Prices paid for energy consumed during these periods shall be pre-established and known to consumers in advance of such consumption, allowing them to vary their demand and usage in response to such prices and manage their energy costs by shifting usage to a lower cost period or reducing their consumption overall; (2) Critical Peak Pricing, whereby time-of-use prices are in effect except for certain peak days, when prices may reflect the costs of generating and/or purchasing electricity at the wholesale level and when consumers may receive additional discounts for reducing peak period energy consumption; (3) Real-time Pricing, whereby electricity prices are set for a specific time period on an advanced or forward basis, reflecting the utility's cost

of generating and/or purchasing electricity at the wholesale level, and may change as often as hourly; and (4) Credits for consumers with large loads who enter into pre-established peak load reduction agreements that reduce a utility's planned capacity obligations.

Q. GIVEN THE PARTICULAR CIRCUMSTANCES IN KENTUCKY, (*E.G.* LOW RATES, BASE LOAD GENERATION, ECT), WHICH OF THE SCHEDULES CONTAINED IN EPACT 2005, IF ANY, WOULD MORE LIKELY RESULT IN A SHIFT OF LOAD FROM PEAK TO OFF PEAK?

A. At this time, Duke Energy Kentucky has not determined which schedule is most likely to produce the best results. Given the relatively low rates in Kentucky, the programs most likely to result in a shift of load from peak to off-peak will be those programs that isolate high price periods and send price signals to customers during those periods. However, different customers have different needs, even within rate classes. It is conceivable that some customers simply may not participate in some of these rate offerings. Therefore, the Company believes an emphasis should be placed on those schedules that can produce cost effective results. All of these schedules may have appeal to specific customer groups, and provide value to Duke Energy Kentucky provided that they are cost effective, and could be offered to customers in an effort to obtain load shifting. Enabling technologies may be required for some schedules given the need for close attention to prices on a regular basis.

IV. SMART METERING POSITION

Q. PLEASE DESCRIBE DUKE ENERGY KENTUCKY'S POSITION ON TIME-BASED PRICING PROGRAMS.

A. As with all customer-related programs, Duke Energy Kentucky is interested in providing our customers with programs and services that improve their energy related knowledge base and increase their satisfaction with our services. However, programs offered should be evaluated in terms of the benefits they provide relative to the costs incurred to offer them. A cost/benefit review, whether qualitative or quantitative should be performed for service offerings including time-based pricing programs.

Q. PLEASE BRIEFLY DESCRIBE THE TIME-BASED PRICING STANDARD CONTAINED IN THE EPACT 2005.

A. EPAct 2005 states: "Not later than 18 months after the date of enactment of this paragraph, each electric utility shall offer each of its customer classes, and provide individual customers upon customer request, a time-based rate schedule under which the rate charged by the electric utility varies during different time periods and reflects the variance, if any, in the utility's costs of generating and purchasing electricity at the wholesale level." It goes on to state: "Each electric utility subject to subparagraph (A) shall provide each customer requesting a time-based rate with a time-based meter capable of enabling the utility and customer to offer and receive such rate, respectively."

Duke Energy Kentucky notes that these proposed standards do not require specific pricing structures or provide specific detail on the allocation of costs to

support these standards. As approved, the standard is quite vague and these issues are left for state commissions to determine.

Q. PLEASE EXPLAIN DUKE ENERGY KENTUCKY'S POSITION REGARDING WHETHER THE COMMISSION SHOULD ADOPT THE TIME-BASED PRICING STANDARDS IN EPACT 2005

A. Duke Energy Kentucky is indifferent toward the adoption of the time-based pricing standards in EPAct 2005 as long as time-based pricing is not mandatory for all customers. Duke Energy Kentucky already complies with the EPAct 2005 standards with the exception of offering residential customers a TOU rate option. It has been Duke Energy's experience in Ohio that not many residential customers are interested in a TOU rate, therefore, there is limited impact on revenues and demand response. If the Commission adopts the EPAct 2005 standards, a revenue neutral, residential TOU rate would be developed and offered to customers. Since system-wide benefits would probably be limited, we would propose that meter and installation costs be paid by the customers who choose to participate in the TOU rate. If time-based pricing is **mandatory**, then a full scale advanced metering infrastructure ("AMI") solution would be required that would include the installation of advanced meters ("smart meters") with two-way communication capabilities linked to a meter data management system to handle the volume of data as well as the time-based pricing structures.

Q. DOES DUKE ENERGY KENTUCKY BELIEVE THAT THE COMMISSION SHOULD MANDATE ANY FORM OF TIME-BASED PRICING?

A. No. Duke Energy Kentucky does not support a mandated form of time-based pricing. Customers prefer options. Some customers may enjoy a rate structure such as critical peak pricing while others may like real-time pricing. Other customers may prefer to participate in traditional flat rate tariffs. A mandated approach to a specific form of time-based pricing does not take into account customer preferences or the geographic, demographic, or other differences across utility service territories in Kentucky.

Q. DOES DUKE ENERGY KENTUCKY SEE ANY BENEFIT TO PROVIDING SMART METERING AND TWO-WAY METER COMMUNICATION TECHNOLOGY TO ALL ITS CUSTOMERS?

A. Yes, there appears to be a number of benefits to providing advanced metering with two-way communications technology to enable smart metering benefits.

Q. COULD ANY TIME-BASED PRICING PROGRAMS BE IMPLEMENTED WITHOUT SMART METERS?

A. By definition, a time-based pricing program needs to collect usage information for the time periods specified in the program so that different prices can be applied to different time periods. Meters that are not time-based limit options for pricing programs because time periods must then be defined by a meter read. It is not practical, without some form of additional technology, to gather usage information beyond monthly meter reading cycles. These monthly reads could be

used to provide monthly or seasonal time-based pricing programs. However, the rate would still be some form of flat rate over the month or season. This type of program may provide a moderate amount of conservation during high price months but would not provide significant demand response on critical days when it is needed.

Q. PLEASE BRIEFLY EXPLAIN THE DIFFERENT LEVELS OF TECHNOLOGY AVAILABLE FOR SMART METERS AND THE BENEFITS ADVANTAGES AND DISADVANTAGES OF EACH?

A. The definition of "smart meters" is changing rapidly. Ten years ago, a meter that could record hourly usage information may have been considered very advanced. Today, as technology evolves, this same meter would not be considered very advanced. The traditional "smart meter" is more expensive than a normal meter and requires onsite programming, as well as, additional monthly premise visits to gather the reads or change the on and off peak periods. There are many features that meters can incorporate to increase their usefulness. Typically, meter manufacturers add these features in a modular fashion and the cost of the meter increases with each module added. Some of the features will not provide much benefit without a two-way communication system between the meter and the utility. This communication system can be expensive but allows for increased benefits from smart meters. Some of the features with an AMI deployment include outage confirmation, meter error logging, tamper detection, voltage monitoring, on-demand reads, environmental benefits due to less vehicle miles and hourly or more frequent usage information. The disadvantage is that AMI

requires a significant investment to gain operational efficiencies, and improve or increase service and pricing options to customers. Perhaps the greatest advantage is the potential to ultimately provide more and better information to Kentucky customers, the utility, and the Commission.

V. CONCLUSION

Q. PLEASE SUMMARIZE DUKE ENERGY KENTUCKY'S POSITIONS REGARDING DEMAND RESPONSE, TIME-BASED PRICING PROGRAMS, AND SMART METERING TECHNOLOGY?

A. Duke Energy Kentucky believes that any time-based pricing and demand response program should be cost-effective. There should not be a mandated program in which all customers are forced to participate. Demand response, time-based pricing and advanced smart metering technology provides significant benefits to both the customer and the utility. Duke Energy Kentucky expects to deploy AMI infrastructure in the near future.

Q. WERE ATTACHMENTS A AND B PREPARED BY YOU OR UNDER YOUR DIRECTION?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

VERIFICATION

State of Ohio)
) SS:
County of Hamilton)

The undersigned, Bruce L. Sailers, being duly sworn, deposes and says that he is the Load Control Development Manager for Duke Energy Shared Services Inc., that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

Bruce L. Sailers Affiant

Subscribed and sworn to before me by Bruce L. Sailers on this 12TH day of May, 2006.

NOTARY PUBLIC

My Commission Expires:

NOTARIAL SEAL STATE OF OHIO

ROCCO O. D'ASCENZO
ATTORNEY AT LAW
Notary Public, State of Ohio
My Commission Has No Expiration
Section 147.03 R.C.

186244

Attachment A

Tariff / Rider	Residential	Commercial	Industrial
PowerManager			
Customers	5,278		
Estimated Load Impact (MW)	7.3		
Rate DT			
Customers	0	128	76
Estimated Load Impact	unknown for all customer classes		
Rate TT			
Customers	0	6	3
Estimated Load Impact	unknown for all customer classes		
Rate RTP			
Customers	0	2	6
Estimated Load Impact (MW) (Excludes Rider PLM Load)	0	0	0
Rate RTP-M	Numbers included in Rate RTP above		
Customers			
Estimated Load Impact			
Rider LM			
Customers	0	109	5
Estimated Load Impact	unknown for all customer classes		
Rider IS			
Customers	0	0	1
Estimated Load Impact(MW)	0	0	2
Rider PLM			
Customers	0	23	31
Estimated Load Impact (MW)	0	3.8	5.7
Total Estimated Load Impact (MW)	7.3	3.8	7.7

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Attachment B

Tariff / Rider	Description of Service / Provision
Residential	
PowerManager	Direct Load Control – Air Conditioners
Commercial & Industrial	
Rate DT	Time of Use – Distribution Voltage
Rate TT	Time of Use – Transmission Voltage
Rate RTP	Real Time Pricing - Voluntary
Rate RTP-M	Real Time Pricing - Mandatory
Rider LM	Load Management Time of Use
Rider IS	Load Management – Interruptible Service
Rider PLM	Load Management – PowerShare Program

Service Description

- PowerManager® (Residential Direct Load Control ("DLC")). PowerManager® is a voluntary program for residential customers with central air conditioning. It is a residential air conditioning, direct load control program. This is a cycling DLC program where a load management switch is installed to the central air compressor unit outside the home. The compressor unit can be cycled on and off during an event between the months of May through September. Customers may enroll in different options which pay varying installation and event incentive levels for different levels of load reduction capability. Our current offerings include:

  a. Option A – 1.0 kW cycling
  b. Option B – 1.5 kW cycling
  c. Retention Option – not advertised – 0.5 kW cycling

  This program was approved in Case No. 2003-00367 dated November 20, 2003.

- Rate DT, Time-Of-Day Rate For Service At Distribution Voltage (KY.P.S.C. Electric No. 4, Sheet No. 41). Applies to non-residential customers with average monthly demands of 500 kW or greater and who receive service at distribution voltage. Under this rate, demand charges vary between summer and winter, and between on- and off-peak periods. Summer, winter, on-peak, and off-peak periods are the same as described under Rider LM below. This rate was

originally approved as an experimental rate on October 3, 1985 in Case No. 9299 and subsequently updated.

- Rate TT, Time-Of-Day Rate For Service At Transmission Voltage (KY.P.S.C. Electric No. 4, Sheet No. 51). Applies to non-residential customers who receive service at transmission voltage. Under this rate, demand charges vary between summer and winter, and between on- and off-peak periods. Summer, winter, on-peak, and off-peak periods are the same as described under Rider LM below. This rate was originally approved as an experimental rate on October 3, 1985 in Case No. 9299 and subsequently updated.

- Rate RTP, Real Time Pricing Program (KY.P.S.C. Electric No. 4, Sheet No. 99). Applies to non-residential customer receiving service under Rate DS, Rate DP, Rate DT, or Rate TT. The RTP Program is voluntary and offers customers the opportunity to manage their electric costs by either shifting load from higher cost to lower cost pricing periods and adding new load during lower cost pricing periods or to learn about market pricing. Binding Price Quotes are sent to each participating customer on a day-ahead basis. The program is intended to be bill neutral to each customer with respect to their historical usage through the use of a Customer Baseline Load (CBL) and the Company's standard rates. This rate was originally approved by the Commission pursuant to 807 KAR 5:011, Section 9(1) dated March 24, 1997. It was revised in Case No. 2000-302 dated October 30, 2000, and has been extended in subsequent cases.

- Rate RTP - M, Real Time Pricing - Market-Based Pricing (KY.P.S.C. Electric No. 4, Sheet No. 59). Applicable to all new customers as of January 1, 2002 having estimated service requirements of 5,000 kilowatts or more and to existing customers whose service requirements increase by 5,000 kilowatts or more. Where an existing customer's requirements increase by 5,000 kilowatts or more, that customer's incremental load is subject to the provisions of this rate schedule. This rate is similar to Rate RTP as described above, but it is not an optional rate. Rate RTP-M was approved in an Order dated May 11, 2001 in Case No. 2001-058.

- Rider LM, Load Management Rider (KY.P.S.C. Electric No. 4, Sheet No. 73). This voluntary rate applies to non-residential customers who receive service under Rate DS (Service At Secondary Distribution Voltage) or Rate DP (Service At Primary Distribution Voltage). For customers with simple time-of-use metering, Rate DS or Rate DP demand charges are based only upon the on-peak periods. For customers with interval metering, Rate DS or Rate DP demand charges are based upon the on-peak demand or 50% of the off-peak demand, whichever is larger. Customers with simple time-of-use metering pay $5 per month to participate in this program. Customers with interval metering pay $100 per month. The summer season is the months of June through September. The "off-peak period" for the summer season is defined as the period from 8:00 p.m. of one day to 11:00 a.m. of the following day; Friday from 8:00 p.m. to 11:00 a.m. of the

following Monday; and from 8:00 p.m. of the day preceding a legal holiday to 11:00 a.m. of the day following that holiday. The "off-peak period" for the winter season is defined as the period 2:00 p.m. to 5:00 p.m. and from 9:00 p.m. of one day to 9:00 a.m. of the following day; Friday from 9:00 p.m. to 9:00 a.m. of the following Monday; and from 9:00 p.m. of the day preceding a legal holiday to 9:00 a.m. of the day following that holiday. The "on-peak period" is defined as all hours exclusive of the "off-peak period" hours. This rate was originally approved on October 3, 1985 in Case No. 9299 and subsequently updated.

- Rider IS, Interruptible Service Rider (KY.P.S.C. Electric No. 4, Sheet No. 74). This voluntary rate applies to non-residential customers who can reduce demand by 1,000 kW or more at the direction and discretion of the Company. Participants must be willing to reduce demand for fourteen consecutive hours in any twenty-four hour period. Under this rate, customers receive monthly demand credits that vary based on the maximum number of hours per year that the participant is willing to be interrupted. Participants that do not reduce demand when notified are billed a penalty of $5 per kW. Customers must enter in a service agreement with the Company that specifies the details, rules, and regulations of the program. This rate was approved on October 3, 1985 in Case No. 9299.

- Rider PLM, Peak Load Management Program (KY.P.S.C. Electric No. 4, Sheet No. 77). Applies to non-residential customers receiving service under Rate DS, Rate DP, Rate DT, Rate TT, Special Contracts, or Rate RTP. The PLM Program is voluntary and offers customers the opportunity to reduce their electric costs by managing their electric usage during the Company's peak load periods. Customers and the Company will enter into a service agreement under this Rider which will specify the terms and conditions under which the customer agrees to reduce usage. PowerShare® is the brand name given to Cinergy's Peak Load Management Program. There are two product options offered for PowerShare® called CallOption® and QuoteOption®:

    - CallOption® – A customer being served under a CallOption® product agrees, upon notification by the Company, to reduce its demand or provide generation for purchase by the Company. Each time the Company exercises its option under the agreement, the Company will provide the customer a credit for the energy reduced or generation provided. If available, the customer may elect to buy through the reduction at a market-based price. In addition to the energy credit, customers on the CallOption® will receive an option premium credit. Only customers able to provide a minimum of 100 kW load response qualify for CallOption®.

    - QuoteOption® – Under the QuoteOption® products, the customer and the Company agree that when the average wholesale market price for energy during the notification period is greater than a predetermined strike price, the Company may notify the customer of a QuoteOption® event and provide a Price Quote to the customer for each event hour. The customer

will then determine whether they wish to reduce demand or provide generation during the event period. If they wish to reduce demand or provide generation, the customer will notify the Company and provide the Company an estimate of the customer's projected load reduction or generation. Each time the Company exercises the option, the Company will provide the customer an energy credit. There is no option premium for the QuoteOption® product since customer load reductions are voluntary. Only customers able to provide a minimum of 100 kW load response qualify for CallOption®.

This rate was approved pursuant to 807 KAR 5:011, Section 9(1) dated November 12, 1999 in Tariff Filing No. T60-1196.