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March 22, 2006

Via Federal Express

Ms. Elizabeth O'Donnell
Executive Director
Public Service Commission
211 Sower Boulevard, P.O. Box 615
Frankfort, Kentucky 40602-0615

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MAR 23 2006

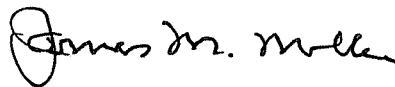
PUBLIC SERVICE
COMMISSION

Re: **MEADE COUNTY RURAL ELECTRIC
COOPERATIVE CORPORATION**
PSC Administrative Case No. 2006-00045

Dear Ms. O'Donnell:

Enclosed are an original and seven copies of the response of Meade County R.E.C.C. to the data requests propounded to it in the February 24, 2006, order of the Public Service Commission in the above-styled matter. Please note our appearance as counsel of record in this matter for Meade County R.E.C.C. I certify that a copy of this filing has been served this day on the persons shown on the attached service list.

Sincerely yours,



James M. Miller
Tyson Kamuf
Counsel for Meade County R.E.C.C.

JMM/ej
Enclosures

cc: Burns Mercer
Bruce Butler, Esq.
Service List

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PSC CASE NO. 2006-00045**

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President/General Manager
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**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

RECEIVED

MAR 23 2006

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**

**MEADE COUNTY RURAL ELECTRIC COOPERATIVE
CORPORATION'S RESPONSE TO THE INITIAL DATA
REQUESTS CONTAINED IN APPENDIX C TO THE
ORDER DATED FEBRUARY 24, 2006**

March 23, 2006

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION'S
RESPONSE TO THE INITIAL DATA REQUESTS OF APPENDIX C
TO THE PUBLIC SERVICE COMMISSION'S ORDER
DATED FEBRUARY 24, 2006

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4 Meade County Rural Electric Cooperative Corporation ("Meade County") offers the
5 following comments, observations and responses to the Public Service Commission's
6 ("Commission") Order dated February 24, 2006 in Case No. 2006-00045,
7 *Consideration Of The Requirements Of The Federal Energy Policy Act Of 2005*
8 *Regarding Time-Based Metering, Demand Response And Interconnection Service.*
9

10 Meade County is a rural electric distribution cooperative, and is a member-owner of
11 Big Rivers Electric Corporation ("Big Rivers"). Big Rivers is a rural electric
12 generation and transmission cooperative ("G&T"), which owns generating assets, and
13 purchases, transmits and sells electricity at wholesale. Its principal purpose is to
14 provide the wholesale electricity requirements of its three distribution cooperative
15 members ("Members"): Kenergy Corp. ("Kenergy"), Meade County, and Jackson
16 Purchase Energy Corporation ("JPEC"). The Members in turn provide retail electric
17 service to approximately 107,000 consumer/members located in 22 Western Kentucky
18 Counties: Ballard, Breckenridge, Caldwell, Carlisle, Crittenden, Daviess, Graves,
19 Grayson, Hancock, Hardin, Henderson, Hopkins, Livingston, Lyon, Marshall,
20 McCracken, McLean, Meade, Muhlenberg, Ohio, Union and Webster.
21
22

23 Big Rivers and its Members have each filed separate responses for the Commission's
24 consideration. However, given the policy-oriented nature of some of the data requests,
25 Big Rivers and its Members have coordinated their responses to several of the data
26 requests, and have often relied on the same or similar information in their responses.
27
28

29 Before responding directly to the information requests attached to the Commission's
30 Order, Meade County, along with Big Rivers and its other Members, want to take this
31 opportunity to provide these additional comments and observations to the Commission
32 in order for the Commission to fully understand the perspective of Big Rivers and its
33 Members with regard to the issues raised in this proceeding. Meade County requests

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION'S
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4 that the Commission carefully consider of these comments and observations as it makes
5 its findings with respect to the Smart Metering and Interconnection Service standards.
6

7
8 As the Commission is well aware, costs for electricity in Kentucky are among the
9 lowest in the country. Currently, in states that have recently pursued a course of
10 deregulation, significant increases in electricity rates are expected this spring and
11 summer. For instance, in the mid-Atlantic states of Delaware and Maryland and
12 including the Washington, D.C. area, electric rates are projected to increase from 30
13 percent to over 100 percent for certain rate classes. Obviously, in these regions of the
14 country there is a keen interest in any measures that help to control energy costs
15 including time-of-use rates and smart metering. However, in a low cost state such as
16 Kentucky there is not much customer interest in these options. In fact, Big Rivers and
17 its Members have regularly surveyed their commercial and industrial customers about
18 their interest in a rate discount for off-peak usage only to find that there is not a strong
19 customer interest. Moreover, as discussed in these responses and in those of JPEC and
20 Kenergy, time-differentiated rates have been offered to some of their customers.
21 However, their customers have shown little interest in these tariffs.
22

23
24 Not only is there little customer interest, but Big Rivers costs do not vary by time of
25 day. Currently, Big Rivers takes most of its power under a wholesale contract with
26 LG&E Energy Marketing ("LEM") and SEPA. The contract with LEM has a flat
27 energy charge regardless of the time the power is taken. The contract with SEPA has a
28 flat capacity charge regardless of the time the power is taken. Similarly, Big Rivers'
29 wholesale contracts with its Members do not time differentiate costs. Thus, there is
30 little incentive for Big Rivers or its Members to encourage load shifting behavior
31 through time-of-use rates.
32
33

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION'S
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Another deterrent to the development of time-of-use rates is the fact that Big Rivers and its Members are member-owned cooperatives. As non-profit, member-owned enterprises, Big Rivers and its Members must have some assurance of being able to recover the costs associated with new and experimental programs. Given the lack of customer interest, the non-time-differentiated costs for power and the uncertainty of recovery of program costs, Big Rivers and its Members have not aggressively pursued time-based rate schedules and Smart Metering programs. As a consequence, Big Rivers and its Members have limited experience with the programs under consideration in this proceeding and therefore they can provide only limited information on the cost to purchase and operate the required equipment or the likely customer response to the programs.

With regard to the Smart Metering standard, Big Rivers and its Members have another concern that may not be universally shared by all of the utilities in Kentucky. As the Commission knows, a Smart Metering program requires a communications feedback loop to the customers to provide them current usage and cost information. However, the territory served by Big Rivers and its Members is a rural, sparsely populated area where the available communication systems may not be as robust as in the more urban areas of the state, and not as capable of supporting these communications. Big Rivers and its Members believe this distinction should be kept in mind as the Commission proceeds with its consideration and determination regarding the Smart Metering standard.

Meade County wishes to make one final observation. Pursuant to Section 102 of the Public Utility Regulatory Policies Act of 1978 ("PURPA"), the Energy Policy Act of 2005 ("EPAAct 2005") only covers electric utilities with retail sales exceeding 500 million kilowatt-hours in a calendar year. See PURPA § 102, 16 U.S.C. § 2612.

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION'S
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4 Meade County does not meet this threshold for retail sales and is therefore not covered
5 by PURPA or by the EAct 2005. Because Meade County is not a covered utility, the
6 Commission exempted it from the Commission's initial proceeding implementing
7 PURPA. *See In the Matter of: The Filing of Plans by Electric Utilities Concerning the*
8 *Feasibility of Implementing Certain Rate Design Standards and Methods,*
9 *Administrative Case No. 203, Order dated February 8, 1980.* For that reason, Meade
10 County requests that any findings ultimately made by the Commission in this matter
11 acknowledge Meade County's exempt status, and that Meade County be exempted from
12 any Commission orders requiring compliance with or implementing the EAct 2005.
13 However, Meade County additionally asks to remain a party to this proceeding because
14 the other two Members of Big Rivers are covered utilities, and any Commission orders
15 requiring them to comply with or to implement the EAct 2005 standards will
16 necessarily impact Meade County's relationship with Big Rivers, its wholesale supplier
17 and transmission source, as well as Big Rivers' wholesale rates or rate structure.
18 Further, Meade County's continued participation in this matter will assist the
19 Commission in its analysis and consideration of the implications of the EAct 2005 for
20 the all-requirements contract relationship between G&T's and their member distribution
21 cooperatives.
22
23

24
25 In conclusion, Meade County, as well as Big Rivers and the other Big Rivers'
26 Members believe that the information presented above and in their responses to the
27 information requests will lead the Commission in its considerations and determinations
28 to the conclusion that a utility-specific approach, especially with respect to
29 implementation of these standards, is warranted. That is, any determinations that the
30 Commission makes with regard to Smart Metering and Interconnection Service should
31 not be universally imposed on all utilities in the state but should carefully consider the
32 specific circumstances encountered by each utility.
33

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION'S
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Witness: David Poe .

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION'S
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Item 1) Provide a list of programs you offer at present or have offered at any time since the enactment of the Public Utilities and Regulatory Policies Act ("PURPA") that can be included under the definition of either time-based metering or demand response set forth in Section 1252 of EPAct 2005. Include a brief description of each program, the relevant tariffs (if applicable) and a cite to the Commission case number in which the program was approved (if applicable).

Response) Meade County has available a "Three Phase Power Service, 0 KVA -- 999 KVA - Optional Time-of-Day ("TOD") Rate" to customers located on or near Meade County's three-phase lines. The rate is available for all types of usage for any customer willing to contract for a three-year period for time-of-day rates. The concept with this rate is that if the consumer shifts some demand to the off-peak hours, then the consumer can save money by avoiding the off-peak demand charge. Currently, only one customer is on the tariff.

The Commission approved the tariff effective September 1, 2004 in Case No. 2004-01047. A copy of the tariff is attached to this filing.

Witness: David Poe

FOR Entire Territory served
 Community, Town or City _____
 P.S.C. No. 35
 (Original) Sheet No. 12
 (Revised) _____
 Cancelling P.S.C. No. _____
 (Original) Sheet No. _____
 (Revised) _____

**MEADE COUNTY RURAL ELECTRIC
 COOPERATIVE CORPORATION**

Schedule 3A CLASSIFICATION OF SERVICE	RATE PER UNIT
<p>Three Phase Power Service, 0 KVA - 999 KVA – Optional Time-of-Day (TOD) Rate</p> <p><u>Applicable:</u> Entire Territory Served.</p> <p><u>Availability of Service:</u> Available to consumers located on or near Seller's three-phase lines for all types of usage willing to contract for a three year period for time-of-day rates, subject to the established rules and regulations of Seller.</p> <p><u>Type of Service:</u> Three-phase, 60 hertz, at Seller's standard voltages.</p> <p><u>Rates: Monthly</u> Customer charge – No kWh usage \$53.68 Energy charge – per kWh \$0.03648 Demand charge – per kW of billing demand per month \$8.12/KW State, Federal and local tax will be added to above rate where applicable.</p> <p><u>Determination of Billing Demand:</u> The billing demand shall be the maximum kilowatt demand established by the consumer for the on-peak hours listed below (fifteen consecutive minutes) during the month for which the bill is rendered, as indicated or recorded by a demand meter and adjusted for power factor as follows: On-Peak Hours for Demand Billing: based on Eastern Prevailing Time (EPT) Summer (April through September) - Monday through Friday from 11 00 a.m. to 8:00 p.m. Winter (October through March) - Monday through Friday from 7:00 a.m. to 9:00 p.m.</p> <p><u>Power Factor Adjustment:</u> The consumer shall at all times take and use power in such manner that its average power factor shall be as near one hundred percent (100%) as is consistent with good engineering practice, but in no case shall the power factor be lower than ninety percent (90%) lagging. The Distributor reserves the right to measure the power factor at any time. Should such measurements indicate that the power factor at the time of his maximum demand is less than ninety percent (90%), the demand for billing purposes shall be the demand as indicated or recorded by the demand meter multiplied by ninety percent (90%) and divided by the percent</p>	<p>N</p>

DATE OF ISSUE July 16, 2004
 DATE EFFECTIVE September 1, 2004
 ISSUED BY *Bruce E. McFerrer*
 ISSUED BY AUTHORITY OF P.S.C.

PUBLIC SERVICE COMMISSION
 OF KENTUCKY
 EFFECTIVE 09/01/2004
 PURSUANT TO 807 KAR 5:011
 SECTION 9 (1)
 P. O. Box 489, Brandenburg, KY 40108
 Executive Director

**MEADE COUNTY RURAL ELECTRIC
COOPERATIVE CORPORATION**

FOR Entire Territory served
 _____ Community, Town or City
 _____ P.S.C. No. 35
 _____ (Original) Sheet No. 13
 _____ (Revised)
 _____ Canceling P.S.C. No. _____
 _____ (Original) Sheet No. _____
 _____ (Revised)

Schedule 3A continued	CLASSIFICATION OF SERVICE	RATE PER UNIT
<p>Three Phase Power Service, 0 KVA - 999 KVA - Optional Time-of-Day (TOD) Rate</p> <p>power factor. When the power factor is found to be lower than ninety percent (90%), the consumer will be required to correct its power factor to ninety percent (90%) at the consumer's expense. The demand shall be defined as ninety percent (90%) of the highest average kilovolt-amperes measured during any fifteen consecutive-minute period of the month.</p> <p><u>Fuel Cost Adjustment:</u> See Schedule 10 for applicable charge.</p> <p><u>Environmental Surcharge:</u> See Schedule 11 for applicable charge.</p> <p><u>Wholesale Power Cost Adjustment</u> See Schedule 14 for applicable charge.</p> <p><u>Minimum Monthly Charges:</u> The minimum monthly charge shall be the highest one of the following charges as determined for the consumer in question:</p> <ol style="list-style-type: none"> 1. The monthly charge specified in this schedule. 2. The minimum monthly charge specified in the contract for service . <p><u>Minimum Annual Charge for Seasonal Services:</u> Consumers requiring service only during certain seasons not exceeding nine months per year may guarantee a minimum annual payment of twelve times the minimum monthly charge determined in accordance with the foregoing section in which case there shall be no minimum monthly charge.</p> <p><u>Due Date of Bill:</u> Payment of consumers monthly bill will be due within ten (10) days from due date of bill.</p> <p><u>Delayed Payment Charge:</u> The above rates are net, the gross rates being five percent (5%) higher on the first \$25.00 and two percent (2%) on the remainder of the bill. In the event the current monthly bill is not paid within ten (10) days from the due date of the bill, the gross rate shall apply.</p>		

DATE OF ISSUE July 16, 2004
Month

DATE EFFECTIVE September 1, 2004
Month

ISSUED BY Beau E. Newer
Name of Officer

ISSUED BY AUTHORITY OF P.S.C.

PUBLIC SERVICE COMMISSION
OF KENTUCKY
EFFECTIVE

Day 09/01/2004 Year

PURSUANT TO 807 KAR 5.011

Day SECTION 9 (1) Year

President/CEO P. O. Box 489, Brandenburg, KY 40108

Title Address

By [Signature]
Executive Director

**MEADE COUNTY RURAL ELECTRIC
COOPERATIVE CORPORATION**

FOR Entire Territory served
 _____ Community, Town or City _____
 _____ P.S.C. No. 35
 _____ (Original) Sheet No. 14
 _____ (Revised) _____
 _____ Cancelling P.S.C. No. _____
 _____ (Original) Sheet No. _____
 _____ (Revised) _____

Schedule 3A continued	CLASSIFICATION OF SERVICE	RATE PER UNIT
Three Phase Power Service, 0 KVA - 999 KVA – Optional Time-of-Day (TOD) Rate		
<p><u>Metering:</u> Necessary metering equipment will be furnished and maintained by the Cooperative, which shall have the option of metering service supplied hereunder at either primary or secondary voltage.</p> <p><u>Special Rules and Conditions:</u></p> <ol style="list-style-type: none"> 1. Motors having a rated capacity in excess of seven and one-half horsepower (7 1/2 H.P.) must be three-phase unless written permission has been obtained from the Seller. 2. All wiring, pole lines, and other electrical equipment beyond the metering point, shall be considered the distribution system of the consumer and shall be furnished and maintained by the consumer. 3. Service hereunder will be furnished at one location. If the consumer desires to purchase energy from the Cooperative at two or more locations, each such location shall be metered and billed separately from the other under the above rates. 4. When lighting is installed under the above rate, the lighting load shall not exceed ten percent (10%) of the maximum power load. All equipment necessary to provide lighting shall be installed, owned and maintained by the consumer. 5. All motors in excess of ten horsepower (10 H.P.) rating shall have reduced voltage starters. 		

DATE OF ISSUE July 16, 2004
Month
 DATE EFFECTIVE September 1, 2004
Month
 ISSUED BY Beau E. Newer
Name of Officer
 ISSUED BY AUTHORITY OF P.S.C.

PUBLIC SERVICE COMMISSION
OF KENTUCKY

Day 09/01/2004 Year _____
EFFECTIVE
 Day _____ Year 2011
PURSUANT TO 807 KAR
P. O. Box 488, Brandenburg, KY 40108
SECTION 9(1)
 Title _____ Address _____
 By [Signature]
 Executive Director

Exhibit A

MEADE COUNTY RECC

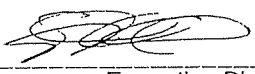
Explanation of Optional Time-of-Day Rate and its Development

Meade County RECC is proposing a new, optional time-of-day ("TOD") rate applicable to all current members/consumers currently billed under Rate Schedule 3 – General Service, 0-999 KVA. If a member consumer selects the TOD rate option, it is expected that the consumer will remain on that new rate schedule for a period of three years.

The only difference in rates for these two rates schedules is that the customer charge has been increased to recover the additional metering cost over the life of the contract. The specifics on the additional customer charge are provided in Exhibit B. Additionally, it should be noted that the on-peak and off-peak hours selected by Meade for demand billing are consistent with the actual hours that it is billed for wholesale demand charges. The concept with this rate is that if the consumer shifts some demand to the off-peak hours, then the consumer can save money by avoiding the demand charge of Meade County. Meade County will also save on its wholesale power demand costs if the retail consumers shift some peak usage to the off-peak hours.

Since Meade County has no idea the number of consumers that may choose this optional rate schedule, it is not practical to attempt a measurement of the financial impact upon Meade County RECC.

PUBLIC SERVICE COMMISSION
OF KENTUCKY
EFFECTIVE
09/01/2004
PURSUANT TO 807 KAR 5:011
SECTION 9 (1)

By 
Executive Director

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION'S
RESPONSE TO THE INITIAL DATA REQUESTS OF APPENDIX C
TO THE PUBLIC SERVICE COMMISSION'S ORDER
DATED FEBRUARY 24, 2006

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Item 2) Provide a general discussion of the types of time-based metering or demand response programs that are possible using existing technologies and a specific discussion on which of these programs, if any, are feasible for current implementation in Kentucky.

Response) As discussed in the prefatory comments, Meade County has limited information readily available on the existing technologies and the programs that are feasible for current implementation in Kentucky. The most relevant cost information Big Rivers and its Members can presently provide for the Commission's consideration of the Smart Metering standard is the current metering system that Meade County is installing.

Meade County is presently in the process of installing Hunt Technologies TS2 Automated Metering Interface (AMI) system. Currently the system has been installed on 6 of Meade County's 16 substations. The system includes 25,668 meters. The cost estimate for total implementation is \$2.8 million with an annual operating cost of approximately \$46,000. To make the system compatible with time-of-use rates additional investment would be required. One of the primary benefits that Meade County will derive from the system is the ability to automate its meter reading program. At this time, Meade County is committed to the installation of this system and has indicated that it would be cost prohibitive to switch this system out to install a different or an enhanced system in order to implement a more sophisticated Smart Metering program.

Witness: David Poe

MEADE COUNTY RURAL ELECTRIC COOPERATIVE CORPORATION'S
RESPONSE TO THE INITIAL DATA REQUESTS OF APPENDIX C
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4 **Item 3)** Provide, in narrative form, with all relevant calculations, workpapers
5 and assumptions included, what you see as the potential impact of implementing the
6 Smart Metering standard included in Section 1252 of EPAct in Kentucky. At a
7 minimum, the response should address the costs of implementation, financial impact on
8 the utility, who should bear the costs of implementation, and possible rate making and
9 rate treatment issues.

10
11 **Response)** As discussed in the prefatory comments, Big Rivers and its Members
12 have limited information readily available on the existing technologies and the
13 programs that are feasible for current implementation in Kentucky. However, based on
14 the Meade County experience discussed in the previous response, the investment cost
15 of the metering system is approximately \$109 per meter with an annual operating cost
16 of nearly \$2 per meter. As discussed in the previous response, this level of investment
17 while significant is still not adequate to implement a time-of-use pricing scheme much
18 less a Smart Metering program. Recently, the Ontario Energy Board released its Smart
19 Meter Implementation Plan. In the plan at page 28, it estimates the smart metering
20 cost for a new single-phase residential meter and communication system at
21 approximately \$250 per installed meter. The Ontario Board's Smart Meter
22 Implementation Plan is available at its website www.oeb.gov.on.ca. Big Rivers and its
23 Members do not have information specific to Big Rivers and its Members readily
24 available to provide reliable estimates of how much it would cost to implement a
25 system that would accommodate critical peak pricing or real-time pricing as suggested
26 by the EPAct 2005. Clearly though the financial impact on Meade County would be
27 substantial and as a cooperative would necessitate a regulatory mechanism for the
28 timely recovery of these costs.
29

30
31 With regard to who should bear the cost of implementation of a Smart Metering
32 program, the answer depends on the benefits that would actually accrue. For instance,
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if there is limited penetration of the program and as a result only a few customers realize some savings on their bills, then the cost should be borne by those customers. However, if there is a more widespread penetration and it becomes possible to identify not only some cost savings but also improved system efficiency and reliability, then it becomes more reasonable to spread the costs to implement the program among a larger group of customers, say a rate class of customers, or some subset of customers, or even across all customers.

At this time, Meade County cannot offer additional guidance to the Commission with regard to its consideration and determination of the Smart Metering standard other than to suggest the possibility of a pilot or trial program to develop better estimates of costs, to better understand customer responses, and to determine the extent of the benefits. If after careful consideration the Commission determines that it is appropriate to implement the Smart Metering standard in Kentucky, then Big Rivers and its Members strongly recommend that they be permitted to develop and conduct a pilot or trial program prior to implementing a more broadly based program.

Witness: David Poe

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4 **Item 4)** Provide a general discussion of what you perceive to be the pros and
5 cons of implementing a Smart Metering standard in Kentucky and the policy issues that
6 you believe the Smart Metering standard presents for the Commission.

7
8 **Response)**

9 PROS

- 10 • A Smart Metering system will likely support an automated meter reading
11 program resulting in some operational cost savings.
12 • A Smart Metering system that makes electricity cost and usage information
13 readily available to the customer may improve the level of customer satisfaction
14 of those who utilize the information.
15 • A Smart Metering system will likely reduce the potential for energy theft with
16 an immediate benefit to the utility until its next rate case and then a benefit to
17 customers going forward.
18 • If customers respond to the information and price signals communicated through
19 a Smart Metering program, there may be a reduced need and or delay for
20 additional generating capacity as well as generation and environmental costs.
21 • If customers respond to the information communicated through a Smart
22 Metering program, there may be improved system efficiency and reliability.
23 • Once the meters have been installed, the accuracy of meter readings should
24 improve with the instances of estimated bills decreasing.
25 • Once the meters have been installed, the utility can more easily verify if and
26 when service is restored after an outage.
27 • If the installed Smart Metering system is based on a real-time two-way
28 communication (i.e. data is transferred to and from the meter by the utility),
29 then more enhanced services such as customer display, integration with load
30 control systems, interface to smart thermostats, voltage monitoring, and remote
31 cut-off can be provided for incremental costs.
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CONS

- The cost to implement an effective Smart Metering program will be substantial and if there are not concomitant cost reductions and system benefits then the utility, and ultimately its customers, will incur a significant financial hardship.
- If the existing metering systems have to be replaced prematurely, there will be undepreciated book value of retired equipment that must be accounted for.
- There must be some assurance that the current and future communications infrastructure will support the Smart Metering program now and in the future.
- If there are additional changes to Daylight Savings Time in the future, it will result in unanticipated reprogramming costs for a Smart Metering program.

The regulatory challenge that the Commission has before it is to consider and make an affirmative determination that the benefits of implementing a Smart Metering program clearly outweigh the costs. Meade County would like to reiterate its concern that given the limited information about the cost, operation and customer response to a Smart Metering program the Commission should not determine that the statewide implementation of a Smart Metering program is required or that it should be implemented immediately by all utilities. Big Rivers and its Members believe that if the Commission determines that a Smart Metering program should be adopted, then a more reasonable approach to implementation for Big Rivers and its Members is to pursue a pilot or trial program first. This will allow for a realistic assessment of costs and benefits to be developed to determine an optimal strategy for implementation of a Smart Metering program on the Big Rivers system.

Another regulatory policy issue that confronts the Commission is the recovery of costs for implementing a Smart Metering program. An integral part of a Smart Metering program – pilot or otherwise – should be a regulatory mechanism for the equitable

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recovery of associated costs. A cost recovery mechanism similar to that used for demand-side management programs may be appropriate.

Witness: David Poe

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Item 1) Provide, in narrative form, with all relevant calculations, workpapers and assumptions included, what you see as the potential impact of implementing the Interconnection standard included in Section 1254 of EAct in Kentucky. At a minimum, the response should address the costs of implementation, financial impact on the utility, who should bear the costs of implementation, and possible rate making and rate treatment issues.

Response) Meade County is a distribution cooperative which receives its wholesale power requirements from Big Rivers. Big Rivers is a G&T, cooperatively owned by its three member distribution cooperatives, which are, in turn owned by their retail member customers. The member distribution cooperatives own and operate the electrical distribution systems to which their retail member customers are connected, and from which they take retail electrical service. Big Rivers owns and operates the electrical transmission system to which its member distribution cooperatives are connected and over which they receive their wholesale electricity purchases.

Electric cooperatives differ from investor-owned electric utilities in that electric cooperatives are not-for-profit, member consumer owned utilities that have no shareholders to absorb the cost of new programs. For this reason, the total costs from any implementation of the EAct 2005 in Kentucky which would affect Big Rivers or its Members should be borne by the distributed resource ("DR"), who also stands to benefit if any profits are realized. No DR project should be subsidized by non-participating members, either directly or indirectly through costs incurred by the member owned electric cooperative. To insure against subsidization, the DR should bear all costs of interconnection, all initial implementation cost, the utility's administrative cost of billing and inspection, and the initial and ongoing cost of testing and maintaining the protection systems described in the IEEE 1547 standard.

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One cost impact of the possible implementation of the EAct 2005, and one that rural electric cooperatives are especially sensitive to given that their customers are spread out over a large area, is the cost of upgrading distribution lines. An electric distribution line that is sized sufficiently to serve a sparsely populated area would have no incremental capacity to handle a proposed DR without costly upgrades. Any regulation proposed to implement the EAct in Kentucky should require that an engineering study be performed at the expense of the DR to determine the adequacy of the distribution line to handle the proposed generation. If there is generation net of the local load that will be absorbed into the distribution system, and the host distribution line is not sized to safely handle the generation, then all system improvements required to handle the generation should be the expense of the DR, and the cost of these system improvements should be assured before the interconnection is allowed.

Because Big Rivers' member cooperatives' wholesale electric requirements are largely supplied under all requirements wholesale contracts with Big Rivers, if the EAct is implemented by Kentucky, all sales of generation should be between the DR and Big Rivers to maintain the integrity of those contracts. Power that enters the distribution grid should be netted out of the wholesale meter that measures the wholesale consumption of the host member cooperative, and the generation received into the distribution grid should be purchased from the DR by Big Rivers at Big Rivers' avoided cost of generation. Big Rivers' avoided cost of generation should be defined as its variable operational and maintenance cost. At such time that Big Rivers is in need of additional generation, the avoided cost would also include the cost of the new generation.

Witness: David Poe

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4 **Item 2)** Provide a general discussion of what you perceive to be the pros and
5 cons of implementing an Interconnection standard in Kentucky and the policy issues
6 that you believe the Interconnection standard presents for the Commission. Include
7 discussion of the issues that must be addressed to comply with IEEE 1547.

8
9 **Response)** As noted above, as a member-owned and member-driven electric utility,
10 Meade County weighs the impacts of the EAct 2005 interconnection standard based
11 upon the best interests of its member-owner retail consumers. Even without
12 implementation of the EAct 2005, Big Rivers and Meade County are willing to assist
13 any retail member consumer with the ability to utilize available resources to its
14 betterment through electric generation. However, they must ensure that such
15 generation does not place a burden on the retail member's neighboring member
16 consumers, or place the consumer or its neighbors, or the transmission and distribution
17 systems on which they rely, in an unsafe situation. Such generation must also be cost
18 effective and environmentally friendly, and any DR interconnection must be
19 implemented in a way that protects the safety of the member consumer, its neighbors,
20 and utility workers, and that protects the service quality and reliability of Big Rivers
21 and its Members' systems.

22
23
24 While Big Rivers and Meade County will assist DRs that meet the above criteria, they
25 have compared the pros and cons of implementing the EAct 2005 interconnection
26 standard in Kentucky and have found that the cons far outweigh the pros. More
27 specifically, Big Rivers and Meade County believe that forced implementation of the
28 EAct interconnection or any similar standard will be at the expense of safety and
29 electric service quality to those in proximity to a DR.

30
31 Safety and reliability are significant concerns with the possible implementation of the
32 EAct 2005. The IEEE 1547 standard recognizes that electric power systems were not
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4 designed to accommodate active generation and storage at the distribution level, and it
5 attempts to develop technical requirements for DR interconnection that address safety,
6 performance, operation, testing, and maintenance considerations. The standard
7 describes systems that a DR must have in place and in good working order to assure
8 the quality of the generation, its safe and timely shut down during times of distribution
9 line faults, and the timely disconnection of the DR from the distribution system during
10 faults on the DR system. These systems are essential for the reliability and quality of
11 service of the distribution grid, and for the safety of the electric utility workers during
12 times of distribution line faults. Therefore, any implementation of the EPCRA 2005
13 must effectively require compliance with the IEEE 1547 standard to ensure not only
14 that the described protection and monitoring systems will be installed, but also that
15 those systems will be routinely inspected and maintained.
16

17
18 However, even with the IEEE 1547 standard, safety would still be a concern. Electric
19 utilities specialize in the generation and delivery of electricity, and devote a tremendous
20 amount of time and expense to training their electrical workers to work safely in the
21 generation and delivery of electricity. In spite of the utilities' best efforts, however,
22 some electrical accidents still occur. Given that the primary function of many DRs will
23 not be the generation and delivery of electricity, there is a concern that adequate
24 attention will not be given to electrical safety and safety training, increasing the
25 likelihood of electrical accidents.
26

27
28 Additionally, the IEEE 1547 standard is not comprehensive. It does not, for example,
29 state the maximum capacity of DR generation that can be interconnected to any
30 particular distribution system, it does not apply to interconnections to network systems,
31 and it only provides general statements as to the necessary performance of DR
32 generation and protective equipment, meaning additional tests or standards may be
33 required to ensure safety and reliability. The IEEE 1547 standard also does not

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4 address the methods used for performing electric utility impact studies of DR or
5 associated tariff issues, which are additional issues that must be addressed with any
6 possible implementation of the EAct 2005.
7

8 Moreover, electric utilities have state and federal regulatory agencies to prescribe
9 safety and reliability standards and to ensure that proper attention is given to safety and
10 maintenance needs. However, even with those safeguards in place, large transmission
11 outage investigations often reveal that maintenance has been underperformed. The
12 price that a DR would realize from its generation (i.e., the avoided cost to the
13 interconnected utility) will be very small. This is especially true in this state since
14 Kentucky is one of the lowest cost electric power producers in the country. With the
15 cost pressure of a low avoided cost, DR's will be under great pressure to cut costs
16 where possible and will be greatly tempted to under emphasize their safety and
17 maintenance needs at the expense of safety and distribution grid reliability or quality of
18 service.
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21 **Witness: David Poe.**
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Item 3) Identify any customer with on-site generation that is currently connected to your distribution system. Provide the customer's maximum demand in 2005 and current generating capacity.

Response) Meade County has no customers with on-site generation that are interconnected to its distribution system.

Witness: David Poe