Frost Brown Todd LLC
ATTORNEYS

KENTUCKY · OHIO · INDIANA · TENNESSEE · WEST VIRGINIA

Mark David Goss
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April 27, 2009

Via Hand-Delivery

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

Re: PSC Case No. 2008-00408

Dear Mr. Derouen:

Please find enclosed for filing with the Commission in the above-referenced case an original and ten copies of the responses of East Kentucky Power Cooperative, Inc. ("EKPC") to the Second Data Request of Commission Staff, dated April 13, 2009.

Sincerely yours,

Mark David Goss

Enclosures

cc: Parties of Record

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CONSIDERATION OF THE NEW FEDERAL STANDARDS OF THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007	))))	**CASE NO. 2008-00408**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Paul A. Dolloff, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff Second Data Request in the above-referenced case dated April 13, 2009, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

Subscribed and sworn before me on this 27th day of April, 2009.

Notary Public

My Commission expires: December 8, 2009

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CONSIDERATION OF THE NEW FEDERAL STANDARDS OF THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007	))))	**CASE NO. 2008-00408**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

James C. Lamb, Jr., being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff Second Data Request in the above-referenced case dated April 13, 2009, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

Jan C Lamb Jr

Subscribed and sworn before me on this 22nd day of April, 2009.

Peggy S. Griffin
Notary Public

My Commission expires: December 8, 2009

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CONSIDERATION OF THE NEW FEDERAL STANDARDS OF THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007	))))	**CASE NO. 2008-00408**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Isaac S. Scott, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff Second Data Request in the above-referenced case dated April 13, 2009, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

Isaac S. Scott

Subscribed and sworn before me on this 27th day of April, 2009.

Peggy S. Griffin
Notary Public

My Commission expires: December 8, 2009

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CONSIDERATION OF THE NEW FEDERAL STANDARDS OF THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007	))))	**CASE NO. 2008-00408**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Julia J. Tucker, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff Second Data Request in the above-referenced case dated April 13, 2009, and that the matters and things set forth therein are true and accurate to the best of her knowledge, information and belief, formed after reasonable inquiry.

Julia J. Tucker

Subscribed and sworn before me on this 27th day of April, 2009.

Peggy S. Griffin
Notary Public

My Commission expires: December 8, 2009

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CONSIDERATION OF THE NEW FEDERAL STANDARDS OF THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007	))))	CASE NO. 2008-00408

RESPONSES TO COMMISSION STAFF'S SECOND DATA REQUEST TO EAST KENTUCKY POWER COOPERATIVE, INC. DATED APRIL 13, 2009

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 1
RESPONSIBLE PERSON: **Isaac S. Scott/Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 1. Refer to the response to Staff's Initial Data Request, Item 40 and Item 43, Attachment 2.

Request 1a. Identify and describe each energy efficiency program that collectively makes up the 9,316,000 MWh savings identified in the EKPC Integrated Resource Plan ("IRP").

Response 1a. Please note that the 9,316,000 MWh savings was reported in error. Please see the response to Request 1(b) for the correct level of program savings.
The following narrative identifies and describes each energy efficiency program included in EKPC's 2006 IRP.
Electric Thermal Storage (ETS) Incentive Program
Description. ETS provides retail members with a cost-efficient means of using electricity for space heating. A discounted rate for ETS energy encourages retail members to use electricity for heating during off peak hours. This improves the utility's load factor, reduces energy costs for the retail member, and delays the need for new peak load capacity expenses.

Target Market. The incentives are available to any retail member, but are primarily designed for retail members who currently use electricity (including heat pumps, baseboard, ceiling cable, or electric furnace heating systems) as their primary source for space heating. The secondary market includes retail members who use wood, coal, propane, or kerosene as primary or secondary sources for space heating.

Electric Water Heater Incentive Program

Description. The electric water heater incentive is designed to encourage residential retail members to choose a high efficiency electric water heater over other available options. It is also designed to encourage retail members using a fossil-fuel water heater to convert to a high-efficiency electric water heater. By reducing the cost of purchasing a high efficiency water heater, cooperatives contribute to lower long-term energy costs and improved satisfaction among residential retail members.

Target Market. The incentive is available to any residential retail member of a participating EKPC cooperative who is building a new home and installing that home's initial water heater. The incentive is also available to any residential retail member who replaces an existing gas or propane water heater with an electric water heater that meets the defined program standards.

Geothermal Heating & Cooling Incentive Program

Description. The program is designed to encourage homeowners to choose efficient geothermal heating and cooling systems rather than less efficient forms of heating and cooling.

Target Markets. The incentives are available to any residential retail member of participating EKPC cooperatives. The primary market consists of retail members who are constructing new stick-built homes, as well as retail member homeowners who currently heat with electric furnaces, ceiling cables, baseboard heat or fossil fuels.

Air-Source Heat Pump Incentive Program

Description. This program provides incentives for residential customers to install a high efficiency air source heat pump instead of a less efficient alternative on the market. For

the 2006 plan, the program impacts reflect the higher baseline efficiencies brought about by the new Federal standards for heat pumps and air conditioners.

Target Markets. The primary targets for this program are retail members who are building new homes in areas where natural gas heat is an option. An important secondary market is the HVAC retrofit market, where the objective is to have retail members replace electric furnaces, natural gas heat, or propane heat with high-efficiency electric heat pumps.

Tune-up HVAC Maintenance Program

Description. This program offers the follow measures:

- Cleaning indoor and outdoor heat exchanger coils;
- Changing filters;
- Measuring the temperature differential across the indoor coil to determine proper compressor operation;
- Checking the thermostat to verify operation and proper staging;
- Measuring air flows to ensure proper conditioned air distribution; and
- Sealing the ductwork, either through traditional mastic sealers or with the *Aeroseal* duct sealing program.

Duct losses are to be reduced to 10% or less. Duct loss measurement requires the use of a blower door test and the blower door subtraction method, or the approved duct loss measurement test associated with the *Aeroseal* duct sealing program. Only contractors trained and certified by EKPC may be used.

Target Markets. The program is targeted to single-family homes using electric furnaces or electric heat pumps that have exhibited high energy use. It is also available to multi-family residences, churches, and commercial facilities heated by electric furnaces, electric heat pumps, and geothermal units. All facilities must have duct systems that are at least two years old to qualify for incentive payments.

Button-Up Weatherization Program

Description. The program requires the installation of insulation materials or the use of

other weatherization techniques to reduce heat loss in the home. Any retail member who resides in a stick-built or manufactured home that is at least two years old and uses electricity as the primary source for space heat is eligible.

Target Markets. The primary program targets are older homes exhibiting unusually high electricity usage.

Direct Load Control (DLC) for Air Conditioners and Water Heaters

Description. This program installs switches to control residential air conditioning and water heating loads during peak demand periods in order to reduce peak load requirements. This program design deploys switches that are engineered for Automated Meter Reading (AMR) systems already in use at the member cooperatives. Central air conditioning and heat pump units are cycled on and off, while water heater loads are curtailed. The typical control duration is four hours. Participating customers receive an annual bill credit incentive.

Target Market. The incentive is available to any residential retail member of a participating EKPC cooperative who has a qualifying central air conditioner. Qualifying water heaters must have a minimum capacity of 40 gallons in order to ensure that the interruption does not affect customer comfort.

Compact Fluorescent Lighting (CFL) Program

Description. This program provides compact fluorescent bulbs to retail members at the annual meetings held by the distribution cooperatives every year. Each registered member receives a two-pack of 14-watt compact fluorescent bulbs that replace 2 60-watt incandescent light bulbs. EKPC pays the price premium for the compact fluorescent bulbs over and above the cost of the incandescent bulbs.

Target Markets. The program is targeted to all residential members.

Energy Star® Clothes Washers

Description. This program is designed to provide incentives to residential retail member to purchase Energy Star® qualified clothes washers. Through superior design and system features, Energy Star® qualified clothes washers clean clothes using 50% less

energy than standard washers. Energy Star® clothes washers use less water per load, saving energy needed to heat the hot water. In addition, Energy Star® clothes washers extract more water from clothes during the spin cycle. This reduces drying time, thereby saving energy needed to dry clothes.

Target Market. The program is designed to reach residential customers who are purchasing new clothes dryers.

Energy Star® Room Air Conditioners

Description. This program is designed to provide incentives to residential retail members to purchase Energy Star® qualified room air conditioners.

Target Market. The program is designed to reach residential customers who are purchasing new room air conditioners.

Energy Star® Refrigerators

Description. This program is designed to provide incentives to residential retail members to purchase Energy Star® qualified new refrigerators. Energy Star® qualified refrigerators use an estimated 15% less energy than similar capacity refrigerators that meet Department of Energy standards.

Target Market. The program is designed to reach residential customers who are purchasing new refrigerators.

Programmable Thermostat with Electric Furnace Retrofit

Description. This program is designed to provide incentives to residential retail members to install programmable thermostats. Properly installed programmable thermostats save 5-10% of heating and cooling energy. This program is designed for residential customers who heat their homes with electricity but do not have a heat pump. Some studies have shown that programmable thermostats can significantly increase morning peak loads when used with heat pumps.

Target Market. The program is designed to reach residential customers who heat their homes with electricity using a primary heat system that is not a heat pump.

Touchstone Energy Heat Pump Home

Description. The program is designed to encourage new homes to be built to higher standards for thermal integrity and equipment efficiency, as well as to choose a high efficiency air source heat pump (SEER 15, HSPF 8.5) rather than less efficient forms of heating and cooling. Homes built to Touchstone Energy Home Standards typically use 30% less energy than the same home built to typical construction standards. Plans are submitted and heat loss/heat gain calculations are made before the home is built, and a blower door test is administered after the home is built to verify that the home meets the standard.

Target Markets. This program is designed to serve the residential new construction market. The incentives are available to any residential retail member of participating EKPC cooperatives. The primary market consists of retail members who are constructing new stick-built homes.

Touchstone Energy Geothermal Home

Description. The program is designed to encourage new homes to be built to higher standards for thermal integrity and equipment efficiency, as well as to choose efficient geothermal heating and cooling systems rather than less efficient forms of heating and cooling. Homes built to Touchstone Energy Home Standards typically use 30% less energy than the same home built to typical construction standards. Plans are submitted and heat loss/heat gain calculations are made before the home is built, and a blower door test is administered after the home is built to verify that the home meets the standard.

Target Markets. This program is designed to serve the residential new construction market. The incentives are available to any residential retail member of participating EKPC cooperatives. The primary market consists of retail members who are constructing new stick-built homes.

Dual Fuel Air Source Heat Pump Retrofit

Description. This program is designed to procure the energy efficiency benefits of high efficiency air source heat pumps for customers who currently heat with fossil fuels, and

at the same time not increase the winter peak load requirements on the EKPC system. The package consists of the add-on heat pump components plus a thermostat control set to a pre-determined temperature (typically 25 degrees Fahrenheit). When the outside air temperature dips below the set point, the thermostat shuts the heat pump off and turns the fossil heating system on.

Target Market. The program is designed to reach residential customers who have central air conditioning and heat with propane or natural gas.

Touchstone Energy Manufactured Home

Description. The Touchstone Energy Manufactured Home is an all-electric manufactured home that is built to Energy Star® specifications. A manufactured home that is built to these standards typically uses 30% less energy. The Touchstone Energy Home includes a sealed duct system, energy efficient double-pane windows, added insulation in the roof and wall, and an improved gasket that seals the halves of the home together. Buyers of qualified manufactured homes receive a rebate from their local cooperative.

Target Markets. This program is designed to serve the new manufactured home market. The incentives are available to any residential retail member of participating EKPC cooperatives.

Commercial & Industrial Demand Response

Description. This demand response program is designed to provide incentives to large customers to reduce their electricity demands on the grid, with short notice (less than 24 hours), for short periods of time, in response to short term conditions external to the customer facility. Typically, those conditions will be either an excessively high price or a shortage of available power. Participants are reimbursed for the cost of the smart meter needed, and receive an annual incentive of $25 per kW offered.

Target Market. The program is designed for customers with peak demands above 50 kW.

Commercial Efficient HVAC Program

Description. This program promotes high efficiency packaged HVAC equipment. It provides incentives for unitary commercial air conditioners and heat pumps that exceed the 2006 Federal Guidelines of 13 SEER and 7.7 HSPF.

Target Market. The incentive is available to any existing commercial or industrial facility that uses packaged single or split air conditioning or heat pump units, usually rooftop units.

Commercial Building Performance Program

Description. This program addresses the need to boost the energy performance of existing equipment and systems by offering building owners and managers proper tuning, operation and maintenance services for HVAC and other equipment in existing buildings. This program combines features of duct sealing with heat pump/air conditioning tune-up (for smaller buildings) and retro-commissioning (for larger buildings). The heat pump/air conditioning tune-up package includes:

- All accessible ductwork sealed;
- Filters changed/cleaned;
- Thermostat checked/adjusted for proper function;
- Indoor and outdoor coils cleaned;
- Refrigerant charge checked and corrected if needed; and
- Airflow checked and corrected if needed.

Retro-commissioning is the systematic process of ensuring that an existing building's energy systems operate in an optimal manner by examining actual performances against design performance. The majority of savings tend to come from adjusting the energy management systems and controls.

Target Market. The program is designed to serve any existing commercial or industrial facility that uses electricity for space cooling and/or space heating.

Commercial New Construction Program

Description. This program promotes integrated design, commissioning, and more advanced technologies in commercial new construction. Electricity savings are realized across a number of end-uses, with the majority occurring from lighting, cooling, and heating. It is anticipated that new K-12 schools would be served by this program.

Target Market. This program is designed to serve the commercial new construction and

major renovation market, including the K-12 schools market. The incentives are available to any residential retail member of participating EKPC cooperatives.

Commercial Efficient Refrigeration Program

Description. This program promotes high efficiency refrigeration equipment. Key technologies include reach-in refrigerators and freezers, walk-in coolers and freezers, refrigerated vending machines, ice-makers, beverage merchandisers, and central refrigeration systems for grocery stores. The program is designed to promote Energy Star® equipment, Federal Energy Management Program recommendations, and the Consortium for Energy Efficiency specifications as applicable.

Target Market. The incentive is available to any existing commercial or industrial facility that uses refrigeration equipment. The primary markets include grocery stores, convenience stores, and restaurants.

Commercial Lighting Program

Description. This program offers incentives to commercial and industrial customers to install high efficiency lamps and ballasts in their facilities. LED exit signs and T-5 fluorescent fixtures are examples of eligible technologies.

Target Market. The incentive is available to any existing commercial or industrial facility in the service territory of a participating EKPC cooperative. The facility and its lighting system must have been in service for at least two years.

Industrial Premium Motors Program

Description. The premium motor incentive is designed to encourage commercial and industrial customers to upgrade in service motor stock to premium efficiency motors. Premium efficiency motors have efficiencies which are higher than Federal Standards, meeting or exceeding the National Electrical Manufacturers Association's NEMA Premium™ efficiency ratings.

Target Market. This program is designed to improve motor efficiency for the non-OEM motor purchase market. The facility must have been in service for two years. In service motors at all commercial, industrial, and institutional facilities are eligible. Spare motors

are not eligible. Efficiencies for 1-200 horsepower motors are specified. Motors greater than 200 horsepower are eligible but must be evaluated on a case-by-case basis.

Industrial Variable Speed Drives Program

Description. This program is designed to promote variable speed drives and drive systems.

Target Market. This program is designed to improve motor efficiency for the non-OEM motor purchase market. The facility must have been in service for two years. In service motors at all commercial, industrial, and institutional facilities ace eligible.

Request 1b. Provide the MWh savings associated with each program identified in 1.a. above.

Response 1b. Please see Attachment 1. Please note that the peak impacts and annual energy impacts shown in the response to Request 43(a) of the Staff's Initial Request reflected data from EKPC's 2009 IRP while the information in the attachment reflects data from EKPC's 2006 IRP.

Request 1c. Identify any programs cited in response to 1.a. above that are not included in the response to Item 43, Attachment 2. Explain why they are not included in Attachment 2.

Response 1c. Please see the response to Request 1(b) for the identification of programs listed in the response to Request 1(a) that were not included in the response to Item 43, Attachment 2.

EKPC notes that the programs included in the response to Item 43, Attachment 2 reflected programs that are currently in operation, while the programs from EKPC's 2006

IRP, listed in the response to Request 1(a), included both existing and new programs that EKPC planned to make operational.
Concerning the Direct Load Control program, as was noted in the response to Item 43, Attachment 2, this program was in start-up mode during 2008 and thus had no participants in 2008 but was estimated to have 9,000 participants in 2009.
Demand-Side Management (DSM) program design and implementation are complex and dynamic undertakings. It is possible that DSM programs that are selected through the quantitative and qualitative evaluation process may not be implemented as described in the IRP. DSM programs that are ultimately launched will first be subjected to a much more rigorous program design effort. In certain cases, a demonstration or pilot project may precede full-scale implementation to test the validity of the program concept. This could mean that certain concepts are modified.

Request 1d. Identify any programs cited in response to Staffs Initial Data Request, Item 43, Attachment 2, that are not included in the response to Item 1.a. above. Explain why they are not included in Item 1 .a. above.

Responses 1d. All the programs cited in the response to Staff's Initial Data Request, Item 43, Attachment 2 are included in the response to Request 1(a) above.

Listed in 43(b)	Program	Winter Peak (MW)	Summer Peak (MW)	Annual Energy Impact (MWh)	Program Life Time Energy Impact (MWh)
Yes	Electric Thermal Storage (R)	-25.4	0.0	44,906	1,076,658
Yes	Electric Water Heater (R)	0.2	0.1	854	19,435
Yes	Geothermal Heating & Cooling (R)	-23.4	-5.0	-14,224	-336,552
Yes	Air Source Heat Pump (R)	11.3	-1.5	3,783	73,926
Yes	Tune-Up HVAC Maintenance (R)	-5.0	-1.9	-6,467	-144,586
Yes	Button-Up Weatherization (R)	-16.4	-6.4	-21,181	-483,309
No	DLC – Air Conditioners and Water Heaters (R)	-56.3	-76.3	-763	-8,773
Yes	CFL (R)	-4.1	-2.9	-25,883	-258,832
No	Energy Star® Clothes Washer (R)	-0.4	-0.2	-1,907	-20,024
No	Energy Star® Room Air Conditioner (R)	0.0	-0.9	-654	-7,454
No	Energy Star® Refrigerator (R)	-0.1	-0.1	-883	-10,064
No	Programmable Thermostat with Electric Furnace Retrofit (R)	0.0	-0.7	-5,304	-53,037
No	Touchstone Energy Heat Pump Home (R)	-1.4	-0.6	-2,378	-27,348
Yes	Touchstone Energy Geothermal Home (R)	-3.4	-0.5	-2,443	-28,096
No	Dual Fuel Air Source Heat Pump Retrofit (R)	0.0	0.0	4,362	50,164
Yes	Touchstone Energy Manufactured Home (R)	-0.3	-0.1	-562	-6,463
No	Commercial & Industrial Demand Response (C)	-19.1	-19.1	-5,721	-85,815
No	Commercial Efficient HVAC (C)	-0.2	-0.7	-2,277	-25,958
No	Commercial Building Performance (C)	-0.9	-1.0	-4,691	-46,912
No	Commercial New Construction (C)	-0.8	-2.0	-8,718	-100,258
No	Commercial Efficient Refrigeration (C)	-0.7	-0.5	-4,577	-43,025
No	Commercial Lighting (C)	-3.0	-4.2	-25,095	-262,099
No	Industrial Premium Motors (I)	-0.5	-0.7	-6,757	-77,028
No	Industrial Variable Speed Drives (I)	-3.0	-4.1	-37,532	-427,865
Total MWh Savings Expected to be Realized over Program Life Time					-1,233,315

R = Residential; C = Commercial; I = Industrial

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 2
RESPONSIBLE PERSON: **Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 2. Refer to the response to Staff's Initial Data Request, Item 42.

Request 2a. Explain why EKPC believes that it is more appropriate to recover Demand Side Management ("DSM") related costs through base rates rather than a DSM Surcharge.

Response 2a. EKPC believes that is has been more appropriate to recover DSM related costs through base rates rather than a DSM Surcharge due primarily to administrative issues related to the levels of DSM costs and what the adoption of a DSM Surcharge at the wholesale level would mean for EKPC's member cooperatives. While EKPC and its member cooperatives have and continue the promotion of various DSM programs, EKPC's DSM related costs have annually been approximately $0.002 per kWh sales to member cooperatives. At this level, EKPC concluded that from an administrative standpoint, it was not reasonable to seek to establish a DSM Surcharge.
Unlike the vertically integrated utility, EKPC does not directly bill the ultimate retail customer. Instead, EKPC bills its member cooperatives for wholesale energy sales and the member cooperative in turn bills the retail customer. If EKPC sought and was granted approval for DSM Surcharge, its member cooperatives would either have to absorb the DSM Surcharge or be forced to establish a DSM Surcharge to pass through

EKPC's DSM Surcharge to the member cooperatives' retail customers. EKPC believes that its member cooperatives should be able to decide if a DSM Surcharge is appropriate based on each member cooperative's evaluation of its own DSM programs and activities, and not be forced to establish a DSM Surcharge simply because EKPC has a DSM Surcharge.

Including the recovery of EKPC's DSM related costs in base rates eliminates the administrative concerns and the member cooperatives can pass on changes in EKPC's base rates to their retail customers either through their own rate case filings or submitting applications pursuant to KRS 278.455.

Request 2b. Does EKPC believe that it is more appropriate for the member distribution cooperatives to recover DSM-related costs through base rates rather than a DSM Surcharge? Explain your answer.

Responses 2b. EKPC believes that it is within the purview of each member cooperative to determine, based upon its own circumstances and situation, whether its DSM related costs should be recovered through base rates or a DSM Surcharge. As stated in EKPC's response to Item 42, it has been EKPC's understanding that it could choose the DSM cost recovery option it believed the most appropriate. Likewise, EKPC believes that choice of options is available to the 16 member cooperatives. For EKPC to indicate which option it believes is more appropriate for the member cooperatives to adopt implies a "one size fits all" approach. EKPC does not believe such a "one size fits all" approach is reasonable or appropriate.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 3
RESPONSIBLE PERSON: **Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 3. Refer to the response to Staff's Initial Data Request, Item 44. Describe the difference between energy conservation and energy efficiency.

Response 3. According to the Energy Information Administration (EIA), energy conservation is any behavior that results in the use of less energy. Energy efficiency is the use of technology that requires less energy to perform the same function. EIA includes the following comparison to make the distinction between energy efficiency and energy conservation. A CFL bulb that uses less energy than an incandescent bulb to produce the same amount of light is an example of energy efficiency. The decision to replace an incandescent light bulb with a CFL bulb is an example of energy conservation.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 4
RESPONSIBLE PERSON: **James C. Lamb, Jr.**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 4. Refer to the response to Staff's Initial Data Request, Item 120, concerning the impact of the American Recovery and Reinvestment Act of 2009 ("Stimulus Bill") on smart grid investments. EKPC stated that it is seeking stimulus funding opportunities. Provide in detail the types of opportunities that EKPC is seeking relevant to funding provided under the Stimulus Bill.

Response 4. The following list of EKPC projects may qualify for Federal stimulus money. All cost estimates are extremely rough but are based on costs of previous installations.

Table One -- Summary of EKPC Stimulus Money Project Candidates

Project	Estimated Cost
Microprocessor Relays	$1.0M
Fault, Disturbance, and IED Monitoring	$0.5M
State Estimation	$0.5M
345 kV Transmission Tie to MISO	$38.0M
Transformer Monitoring	$1.6M
DTCR	$1.0M
Distribution SCADA	$10.0M
DSM	$20.1M
Smart Pricing	$1.0M
Smart Distribution Capacitors	$18.2M
Total	$91.9M

Microprocessor Relays - $1.0M

Upgrade electromechanical panel to microprocessor panel
50 panels * $20,000 = $1,000,000

Fault, Disturbance, and Intelligent Electronic Devices (IED) Monitoring - $0.5M

NERC/SERC Requirement above 200kV
10 recorders * $50,000/recorder = $500,000

Phasor Measurement Units (PMU)
3 PMUs * $10,000/PMU = $30,000

State Estimation - $0.5M

EMS application
$300,000 Software module cost
$200,000 Necessary field hardware installations

345kV Transmission Tie to MISO - $38.0M

Spurlock to Zimmer:

30 miles of 345kV Transmission Line
$1,000,000/mile * 30 miles = $30,000,000

Substation Upgrades
$4,000,000/each * 2 substations = $8,000,000

Transformer Monitoring - $1.6M

Dissolved Gas Analysis Monitoring:

Large Power Transformers and GSU
20 transformers * $40,000/unit = $800,000

Smaller Power Transformers
35 transformers * $15,000/unit = $525,000

Top oil and winding temperature monitoring:

Distribution Transformers

50 transformers * $5,000/transformer = $250,000

Dynamic Thermal Circuit Rating (DTCR) – $1.0M

Transmission Models

30 transmission lines * $10,000/model = $300,000

Transformer Models

20 transmission lines * $10,000/model = $200,000

Weather Stations

15 weather stations * $12,000 = $180,000

Advanced Monitoring Equipment

15 monitoring units * $20,000 = $300,000

Distribution Supervisory Control and Data Acquisition (SCADA) – $10.0M

10 cooperatives * $1M/co-op = $10M

Cost for provide SCADA for a single cooperative:

$695,000 Substation retrofit (25 substations)

$27,800 per substation with four feeders –
- $2,000 voltage regulator controls
- $3,200 * 4 recloser controls
- $3,800 Remote Terminal Unit (RTU)
- $1,200 additional meter
- $3,000 cabinets, wire, misc. hardware
- $5,000 labor

$300,000 for telecomm

Computer terminals: Master and slave stations
Integration with the Energy Management System (EMS)
Field installations: Radios, antennas, repeaters, fiber optic and/or microwave hardware, etc.

Smart Pricing – $1.0M

Real Time Pricing (RTP)

Software needs: Billing, accounting, engineering, web based communications
Marketing and advertising
Hardware integration

DSM - $20.1M

Current program

$4.0M for 10,000 devices per year
5 year program
$20.0M for 5 years

Double the existing program

$20.0M
$100,000 for backroom software development (integration)

Smart Distribution Capacitors - $18.2M

An example of leveraging distribution SCADA.

Distribution capacitor banks coupled with a vacuum switch, an RTU with on-board Power Line Carrier (PLC), and some form of telecomm. In addition to being programmable, zero-crossing technology for switching is featured; hence, limited power quality issues.

2,800 installations * $6,500/installation = $18.2M

Cost for a single installation:

$6,500 per substation with four feeders –
$1,500 capacitors
$500 rack
$1,500 RTU
$1,500 telecomm needs: cabinets, wire, misc. hardware
$1,500 labor

Number EKPC distribution substations = 350
Assume 4 feeders per substation
Assume two capacitor banks per feeder
Total number of units = 350 * 4 * 2 = 2,800

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 5
RESPONSIBLE PERSON: **Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 5. Refer to the Testimony of Christopher S. Perry ("Perry Direct"), page 12, and the response of Owen Electric to Staff's Initial Data Request, Item 40, page 4, concerning the discussion of a per-meter charge or a higher TIER allowance supporting investments in energy efficiency programs.

Request 5a. Explain whether you agree with the positions of Fleming-Mason and Owen Electric on this issue.

Response 5a. EKPC submits the following responses from the Member Systems.
Big Sandy strongly agrees with the positions of Fleming-Mason and Owen.
Blue Grass agrees with Fleming-Mason and Owen. If required, Blue Grass prefers collecting the per meter surcharge to be used for energy efficiency initiatives.
Clark does agree that many members on its system do not have the disposable cash to fully implement the programs that its offer. Clark does not agree that its total membership should subsidize those members by having an additional charge added to their bill or included in their base rates. Clark believes a third party, such as Community Action Groups, should be included in the process to help fund these type projects for the low income members.

Cumberland Valley does agree in part with the positions that Owen and Christopher Perry take in regards to a higher Times Interest Earned Ratio (TIER) allowance or a per-meter charge as a means for supporting investment in energy efficiency programs.
Farmers states that while the concepts are interesting, it would not be able to voice carte-blanche agreement or disagreement to the idea of a per-meter charge or a higher TIER for investments in energy efficiency programs. Farmers is very supportive of energy efficiency programs, however, being a member-owned cooperative, one of the key considerations of all operational activities rests on answering the question of whether the member-owners desire and are willing to pay for an activity or program. If programs were of a nature that would apply and benefit all members, then Farmers would likely find its member-owners supportive and willing to incur higher monthly electric costs to fund such initiatives. Programs that offer benefits to a very limited group of consumers based upon other criteria such as income might not be supported by the membership. Certainly, many programs that target specific service classes can be shown to benefit all service classes, and where that is the case, member education generally becomes a key to the success in gaining acceptance of such programs. Farmers would be supportive of those types of programs.
Grayson is not sure that it fully understands Owen's or Fleming-Mason's specific approaches, however there needs to be a mechanism that recognizes a specific cooperative's method supporting that cooperative's investment in energy efficiency / demand management programs.
Inter-County does agree that the members that most need to take advantage of these programs are the ones that can least afford to participate. Therefore, there needs to be some sort of mechanism to fund these programs.
Jackson would support a per-meter charge for investments in energy efficiency programs. However, Jackson believes the administration of the funds and the types of programs offered to the customers should be decided by each cooperative individually. Jackson is

not in favor of collecting funds for other organizations to administer these types of programs.

Licking Valley agrees that it would be better for both the cooperative and for customers to recover the fixed costs through a fixed monthly charge that does not vary with kWh sales (usage) and with weather.

Nolin partially agrees with the stance taken by Christopher Perry and Owen in regards to a higher TIER allowance for supporting energy efficient programs. Nolin believes member education and energy utilization programs will aid in energy efficiency.

Salt River agrees that a per-meter charge is one way to improve the incentive to end-use customers.

Shelby notes that the positions are similar and also reasonable suggestions in making a workable contribution towards benefiting all parties involved.

South Kentucky does agree with the position that Owen and Christopher Perry take in regards to a higher TIER allowance or a per-meter charge as a means for supporting investments in energy efficiency programs.

Taylor County feels it can promote energy efficiency programs without a per-meter charge or higher TIER allowance.

Request 5b. Do you believe that a per-meter surcharge is preferable to the typical per-kWh DSM Surcharge? Explain your answer.

Response 5b. EKPC submits the following responses from the Member Systems.

Big Sandy prefers a per-meter surcharge for this item, in as much as it is not a separate line item on the customer's bill.

Blue Grass believes the per-meter surcharge is preferable. Please see our response to Request 5a.

Clark, please see to the response to Request 5a. Clark notes that the primary purpose of DSM is to reduce the need to build additional generation by removing on-peak demand.

Most of the energy efficiency programs that Clark promotes remove usage without regard to on- or off-peak usage. Direct Load Control (DLC) would be an example of a program that would require the need for a DSM Surcharge. DLC benefits the members more unilaterally because all who chose to could participate in the program as well as contribute through the surcharge.

Cumberland Valley believes that a per-meter charge can be preferable to the typical per-kWh DSM surcharge if the majority of the DSM applications require fixed cost type of investments by the cooperative. If the majority of the DSM applications result in a variable/energy type of investment, then the preferable way may be a per-kWh DSM surcharge. The type of DSM surcharge for a distribution cooperative may be one that is similar to what EKPC may implement.

Farmers states that a per-kWh charge would probably be preferable. It would be more in line with equitably charging users in relation to the benefits that might be derived from energy efficiency programs. The downside of a per-kWh charge would be its effect on some low-income members. Many low-income members reside in homes that are not energy efficient and despite their best efforts at managing their usage, still have higher-than-average energy bills.

Grayson is not sure which would be better.

Inter-County does not have a preference at this time without some sort of study or research performed to discover which option would best facilitate the proper method for recovery.

Jackson states that the per-meter charge is preferable. This would be a fixed amount of income on a monthly basis and budgets for energy efficiency programs could be established and implemented with a steady flow of income.

Licking Valley states that yes, a per-kWh DSM Surcharge would be preferable to an increase in the rate per kWh. This would encourage energy conservation.

Nolin states that the DSM surcharge would be the last choice of funding for any project. It provides another adder on the bill which could present confusing explanation to

members and added training of customer service representatives. The monthly set charge associates one cost to all members regardless of kWh usage. The cost can be better associated with the energy use than the monthly fee.

Nolin notes that the second method is a more complete solution. It provides the funding by TIER and would be easier to implement. There would be no adder to the billing lines and a program will become more valuable. As the member initiates a DSM program, the benefit is immediate through kWh usage and sustained over time. The program would promote a signal to the member, the higher the kWh usage the more important it is to control efficiency.

Salt River states that a per-meter charge would decrease the loss of the revenue of any energy not used because of a customer's investment in efficiency.

Shelby does not feel one method is preferable over the other. Both would meet the same goal of funding. However, efficiency and conservation projects should be included in both methods.

South Kentucky believes that a per-meter charge can be preferable to the typical per-kWh DSM surcharge if the majority of the DSM applications require fixed cost type of investments by the cooperative. If the majority of the DSM applications result in a variable/energy type of investment, then the preferable way may be a per-kWh DSM surcharge.

Taylor County, please see Taylor County's response to Request 5a.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 6
RESPONSIBLE PERSON: **Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 6. Refer to EKPC's response to Staff's Initial Data Request, Item 40. A copy of Owen Electric's Strategic Initiative Challenge 2009 is included as page 3 of the response.

Request 6a. Explain whether each other member cooperative has similar initiatives to study energy innovation, rate design and the other challenges set forth in the Owen Electric strategic initiative.

Response 6a.

EKPC

As the preface to this question indicated a response was necessary "except where otherwise directed" and this question appears to be directed only to the member cooperatives, EKPC is not providing a response. However, EKPC submits the following responses from the member cooperatives.

Members

Big Sandy does not currently have such an initiative.

Blue Grass has similar initiatives. Blue Grass tracks its progress through its Balanced Scorecard. Blue Grass' initiatives are tracked and scored monthly.

Clark does not have a formal initiative in place.

Cumberland Valley does not have a formal, written plan that parallels the Strategic Initiative Challenge of Owen. Cumberland Valley has taken a look in recent times at some rate design considerations for potential future applications. Additionally, Cumberland Valley has always collaborated many times with EKPC on various programs. It has been Cumberland Valley's philosophy to operate its system in a manner that is as efficient as possible with cost minimization and operational flexibility.
Farmers has similar initiatives. Key components of its member services programs have been to:

- Educate and inform residential members of more efficient uses of electricity.
- Partner with power provider in implementing residential demand side management.
- Developing programs and initiatives to benefit our small commercial (50-300 kW) members such as energy audits.
- Developing relationships and exchange of information with HVAC providers to better coordinate efforts to provide best solutions for end users.
- Actively working with large commercial customers to provide solutions for understanding, managing, and improving efficiency and load factor.

Farmers has incorporated changes in its rate design in a recent rate request with the Commission. Customer charges have been added or increased in various rate tariffs to reflect a higher percentage of fixed costs and to gradually move those costs out of the energy charge. It is the goal of Farmers to more accurately recover fixed costs through the customer charge and recover variable energy charges through the per-kWh rate. Farmers also has the goal of reducing cross-class rate subsidies and has taken steps in the recent rate request to more closely align rates with the cost to serve.
Fleming-Mason has a similar strategy as Owen and that is to rethink the way we sell electricity and energy to our members. The time has come for us to aggressively pursue efficiency, conservation, renewables, and any other innovations that will help members to use energy wisely. This includes rate design. The utilities, Commission, and government

leaders must all come to the realization that the world is changing and the current rate structures may not align all the priorities of each group. A rate structure that eliminates the throughput incentive and allows utilities to aggressively pursue efficiency as a strategy to meet growing demand without harming them financially should be implemented.

Grayson is in the process of developing such an initiative.

Inter-County does have similar initiatives as to those outlined in Owen's Strategic Initiative.

Jackson has several initiatives in regard to energy innovation. Jackson offers a free energy audit for its customers, and for several years has given away CFL's to customers in helping them become more energy efficient. Jackson actively participates in a number of energy efficiency programs with its customers such as heat pump tune up, insulation upgrades, promotion of higher efficiency HVAC, higher energy factor water heaters, energy star homes and appliances. Jackson is also investigating devices such as in-home displays and pre-paid metering that utilize our advanced metering infrastructure (AMI) system. These devices would allow its customers to better understand their energy consumption and control their monthly electric costs.

Jackson has studied its rates and discussed the rate designs that would be appropriate for energy efficiency and conservation. Jackson believes the rate design should allow the fixed costs to be captured in the customer charge with a lower energy charge. This would allow Jackson to promote energy efficiency programs without jeopardizing the financial condition of the cooperative. Jackson has also been investigating the possibility of Time of Use (TOU) rates and the management of the data using its AMI system. The TOU rates would allow customers to utilize energy at off-peak times. TOU rates will be necessary if the PHEV (plug-in hybrid electric vehicle) becomes more prevalent in Jackson's region.

Jackson is also supporting DLC on water heaters and air conditioners with the paging system through EKPC's SimpleSaver program.

Jackson continually provides efforts to communicate and educate our customers. Educational material is provided to Jackson's customers in Safety demonstrations, civic group discussions, and on its web site to better educate customers about the effects of electric power production and climate change. Additional planned education efforts are aimed at measures causing customer habits to change toward being more aware of various energy efficient technologies. Jackson is also investigating a marketing campaign for 2009 to better educate its members.

Jackson is also utilizing federal funding to promote energy efficient homes. Jackson received a USDA high energy cost grant of $1,000,000 to be used to bring energy efficiency to low income customers. Jackson is working with community action agencies to identify and qualify this customer group. Homes are being retrofitted with higher efficient HVAC, weather stripping, caulking, insulation, new windows, and various forms of sealing air leaks in the envelope. Home owners also receive various pieces of educational material on energy efficient measures around the home.

Licking Valley has similar initiatives as Owen, but has no written plan.

Nolin states that Owen's approach is comparable to Nolin's goals. Nolin is very interested in new and innovative Rate Designs and the Collaboration with generation and transmission as a partner in the development of rates. The communication with Nolin's members is a first priority in acceptance of and implementation of a plan.

Salt River does not have a formal initiative except working with the EKPC DSM Programs.

Shelby does have similar initiatives as demonstrated through the support of several programs as listed in attachment 43(a) for the initial request. Shelby's initiative may not be as broad in scope as Owen's, but Shelby agrees with the strategies outlined by Owen.

South Kentucky does not have a formal, written plan that parallels the Strategic Initiative Challenge of Owen. South Kentucky has taken a look in recent times at some rate design considerations for potential future applications. Additionally, South Kentucky has always collaborated many times with EKPC on various programs. It has been South

Kentucky's philosophy to operate its system in a manner that is as efficient as possible with cost minimization and operational flexibility.
Taylor County does not have a strategic initiative similar to Owen.

Request 6b. If you do not have a similar initiative, explain whether or not you agree with the strategies outlined in Owen Electric's strategic initiative.

Response 6b.

EKPC

As the preface to this question indicated a response was necessary "except where otherwise directed" and this question appears to be directed only to the member cooperatives, EKPC is not providing a response. However, EKPC submits the following responses from the member cooperatives.

Members

Big Sandy agrees with the strategies of Owen.
Blue Grass states while it has similar initiatives, it also generally agrees with Owen.
Clark agrees with the strategies of Owen.
Cumberland Valley does agree with those strategies that may be amenable and applicable to its service area. Cumberland Valley has not fully studied the possible application of this document to its system to readily determine what strategies are appropriate for Cumberland Valley.
Farmers has similar initiatives, so the question is not applicable.
Fleming-Mason has similar initiatives, so the question is not applicable. Please see Fleming-Mason's response to Request 6a.
Grayson states that in theory, yes it agrees.
Inter-County has similar initiatives, so the question is not applicable.
Jackson has similar initiatives, so the question is not applicable.
Licking Valley has similar initiatives, so the question is not applicable.

Nolin has similar initiatives, so the question is not applicable.

Salt River believes that DSM programs should be initiated, paid for and controlled by the generation cooperative.

Shelby has similar initiatives, so the question is not applicable.

South Kentucky does agree with those strategies that may be amenable and applicable to its service area. South Kentucky has not fully studies the possible application of this document to its system to readily determine what strategies are appropriate for South Kentucky.

Taylor County, please see Taylor County's response to Request 6a.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 7
RESPONSIBLE PERSON: **Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 7. Refer to Perry Direct, pages 3-11, and the response of Owen Electric to Staff's Initial Data Request, Item 44, regarding the throughput incentive. Explain whether you agree with the positions of Fleming-Mason and Owen Electric that customer charges should be increased to recover a much larger portion of fixed costs, with a corresponding decrease in energy charges, in order to mitigate the throughput incentive and encourage cooperatives to more aggressively pursue energy efficiency.

Response 7.

EKPC

EKPC is in full agreement with Fleming-Mason and Owen that fixed charges (demand charges at wholesale; customer charges at retail) should be increased to recover a much larger portion of fixed costs, with a corresponding decrease in energy charges, in order to mitigate the throughput incentive and encourage the pursuit of energy efficiency programs. This approach reflects the basis of the Phase II rate structure proposal EKPC offered in its recent rate case, Case No. 2008-00409.

Members

Big Sandy agrees with Fleming-Mason and Owen on this issue.

Blue Grass agrees with Fleming-Mason and Owen.

Clark does agree with the positions of Fleming-Mason and Owen.

Cumberland Valley agrees with the idea that customer charges should be increased to recover to the level that recovers the marginal consumer-related revenue requirements associated with connecting a consumer to the distribution grid. Correspondingly, the energy charge would decrease in amount. Cumberland Valley supports this idea because it is "a good ratemaking principle" with the fallout of allowing a cooperative to more readily and easily pursue energy efficiency.

Farmers agrees with Owen and Fleming-Mason on rate design. The cooperative's recent rate request with the Commission reflects this position.

Grayson agrees.

Inter-County does agree with this response as a higher customer charge more in line with what the cost of service study reveals will allow the cooperative a method to recover its fixed costs rather than a recovery through energy (kWh) sales. This would allow the cooperative to lower the energy charge, be less dependent on energy sales to remain financially stable and better embrace the promotion of energy conservation and efficiency.

Jackson states that in order to aggressively pursue energy efficiency programs and energy conservation, it agrees that the fixed costs must be captured in the customer charge and the variable costs reflected in the energy charge. The decrease in sales due to energy conservation/efficiency would not financially impair the cooperative as the majority of the fixed costs are recovered in the customer charge.

Licking Valley agrees with the position of Fleming-Mason and Owen that customer charges should be increased to recover a much larger portion of fixed costs, without increasing energy charges, in order to mitigate the throughput incentive and encourage cooperatives to more aggressively pursue energy efficiency.

Nolin is in agreement with the Fleming-Mason and Owen throughput mitigation plan of placing the cost in a fixed customer charge, rather than a kWh sales increase. To increase kWh cost would decrease the revenue stream into the cooperative with the

implementation of the program. The fixed cost increase voids this issue between margins and kWh sales.

Salt River believes that rates should be based on cost of service.

Shelby does agree with the position of covering fixed cost through the customer charge so each member pays "the costs they impose on the system" and not receive a subsidy from higher kWh users.

South Kentucky agrees with the idea that customer charges should be increased to recover the marginal consumer-related revenue requirements associated with connecting a consumer to the distribution grid. Correspondingly, the energy charge would decrease. South Kentucky supports this idea because it is "a good ratemaking principle" allowing a cooperative to more readily and easily pursue energy efficiency.

Taylor County does agree that rates should be developed using a cost of service study.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 8
RESPONSIBLE PERSON: **Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 8. Refer to the responses of EKPC and its member cooperatives to Staff's Initial Data Request, Item 48, concerning decoupling. It appears some cooperatives view decoupling as including a straight fixed-variable rate design while others view such a rate design as separate from decoupling. If a straight fixed-variable rate design is considered a form of decoupling, explain whether your position on decoupling would be different from that stated in the response to Item 48.

Response 8.

EKPC

EKPC continues to believe that the Commission should not implement decoupling to support energy efficiency. EKPC notes that the straight fixed-variable rate design and decoupling share a similar focus of removing the recovery of fixed costs from the variable component of rates, which is linked to the level of kWh sales. EKPC believes it is this similar focus that has resulted in the confusion of whether the straight fixed-variable rate design is a form of decoupling. Straight fixed-variable rate design relies on traditional cost-of-service study-based rate design to remove the recovery of fixed costs from the variable component of rates and breaking the link to the level of kWh sales. Decoupling identifies the fixed cost portion of the revenue requirement and utilizing a series of calculations to account for weather, economic conditions, and periodic true-ups

stabilizes the recovery of the fixed cost portion of the revenue requirement from ratepayers for a period of years.

Decoupling is identified as one of three approaches to address the "throughput incentive" by the National Association of Regulatory Utility Commissioners and the National Action Plan for Energy Efficiency Leadership Group. The other approaches are straight fixed-variable rate design and lost revenue recovery mechanisms. As EKPC stated in its response to Item 48, while it is suggested that decoupling could remove disincentives for utilities to promote energy efficiency, decoupling is not designed to create an incentive for energy efficiency.

Members

Big Sandy favors the straight fixed-variable rate design to address the throughput incentive issue. Big Sandy believes it is not clear that the implementation of decoupling would support energy efficiency.

Blue Grass believes that fixed costs should be included in the customer charge and variable costs in the energy charge. If that is decoupling, Blue Grass is for it; if not, Blue Grass is against it.

Clark supports the straight fixed-variable rate design to promote energy efficiency. A better understanding of how this design would be considered a form of decoupling needs to be established before a complete response can be made.

Cumberland Valley does not fully understand how decoupling would apply to a distribution cooperative. Cumberland Valley has two types of cost: consumer-related costs and distribution demand related costs. Many consider these costs to be completely fixed costs in the short term. The only variable costs that Cumberland Valley has in the short run are wholesale power costs. A straight fixed-variable rate design may have some merit. However, Cumberland Valley feels that the best rate design would be one that follows the traditional concept that rates be based on the cost to serve. The best step that could be made in rate design at the current time is the ability to establish a customer charge that recovers the revenue requirements to connect a consumer to the distribution

grid. If the traditional rate design does not allow for energy efficiency, then decoupling may be a concept to consider.

Farmers believes that the throughput incentive needs to be eliminated for the distribution cooperative to be able to recover its costs while actively assisting its members with reducing usage. The cooperative feels that the fixed-variable rate design is the most easily understood and managed process for achieving that result. Fixed-variable rate design relieves the utility from the concern about fixed cost recovery, so can be viewed as a way to "decouple." However, other solutions have been promoted such as decoupling and lost-revenue recovery as noted by EKPC in their earlier response. The cooperative does not oppose studying other methodologies as long as they are fair to rate-payers, easy for rate-payers to understand, evoke the intended customer response, and allow the cooperative to fairly recover its costs to serve.

Fleming-Mason believes that any rate design should encourage energy efficiency as a tool without financially harming the utility and the fixed costs must be recovered through fixed charges. Decoupling in a traditional sense is not straight fixed-variable rate design, but the two do the same thing. Each one separates the link (decouples) between revenues and energy sales. Fleming-Mason believes that a rate structure based on straight fixed-variable rates is the most basic way of breaking the link between sales and revenues, but admits that decoupling as presented by Mr. Richard Sedano of The Regulatory Assistance Project would be acceptable. Fleming-Mason has been reviewing the fixed charges (customer charges) of cooperatives in other states with similar characteristics and found that the normal customer charge ranges from $18.00 to $26.00.

Grayson has no comment.

Inter-County is still unclear whether decoupling does or does not support energy efficiency regardless if a straight fixed-variable rate design is a form of decoupling.

Jackson's definition of decoupling is a straight fixed-variable rate design and we support decoupling with this definition. Fixed costs would be recovered through the customer charge and the variable costs would be recovered through the energy charge.

Licking Valley agrees with the responses of Salt River and EKPC to the Staff's Initial Data Request, Item 48, and does not believe the Commission should implement decoupling to support energy efficiency.

Nolin states that the latest studies are showing decoupling can result in significant new energy efficiency programs and ratepayers may be better off in the trade-off for decoupling. The two leading states in terms of implementing decoupling (California and Oregon) are two of the states with a very high level of utility funding for energy efficiency. These studies are showing that a combined trade off of fixed (base rates or meter cost) and variable unit cost blend make for the best concept and is generally held in stronger favor by energy efficiency advocates.

Nolin is very willing to work with the Commission, EKPC, and its Member Systems to investigate and develop a common understanding of any rate structure that will eliminate the throughput incentive and effectively allow Nolin to aggressively pursue energy innovation without causing financial harm to Nolin, its members, EKPC, or other Member Systems.

Owen strongly supports cost of service based rates where the fixed costs are recovered through a member charge and the variable energy costs are recovered through a variable energy charge. This approach is commonly referred to as fixed/variable pricing. Owen is not supportive of complex decoupling methods. We prefer fixed/variable pricing based upon the cost of service due to its simplicity and transparency, because it is easily communicated to our members, easily understood by our members, and as a result builds trust with our members.

Salt River wishes to stay with its original answer.

Shelby states that if a straight fixed-variable rate design is implemented based on a cost-of-service study, and would be considered a form of decoupling, Shelby's position would be different.

South Kentucky is not fully cognizant as to how decoupling would apply to a distribution cooperative. South Kentucky has two types of cost: consumer related costs and

distribution demand related costs. Many consider these costs to be completely fixed costs in the short term. The only variable costs that South Kentucky has in the short run are wholesale power costs. A straight fixed-variable rate design may have some merit. However, South Kentucky feels that the best rate design would be one that follows the traditional concept that rates be based on the cost to serve. The best step that could be made in rate design at the current time is the ability to establish a customer charge that recovers the revenue requirements to connect a consumer to the distribution grid. This approach would put less distribution costs "at risk" for any energy efficiency applications that may be adopted. If the traditional rate design does not allow for energy efficiency, then decoupling may be a concept to consider.

Taylor County's position on decoupling has not changed.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 9
RESPONSIBLE PERSON: **Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 9. EKPC's response to Staff's Initial Data Request, Item 51, shows that Fleming-Mason, Inter-County, Shelby Energy and South Kentucky do not have Automated Meter Reading ("AMR") technology. Fleming-Mason, Inter-County, Shelby Energy and South Kentucky are to respond to the following:

Request 9a. Provide a discussion of any consideration that has been given to AMR technology. Include a discussion of the cost-effectiveness of AMR technology and if there are any plans to deploy the technology in the future.

Response 9a. EKPC submits the following responses from the listed Member Systems.

Fleming-Mason is always looking for ways to use technology to improve service to our members and at the same time help control costs. AMR technology is a wonderful tool and will be implemented in the future. Fleming-Mason has evaluated all of the systems that are in use at cooperatives around the state including the use of the remote reading modules by Itron called ERTs. The ERT modules allow for our meter readers to remain in their vehicles and receive the meter reading remotely through radio signals. Some utilities argue that this type of system is remote meter reading. That is not Fleming-Mason's opinion, but it has helped Fleming-Mason save significant dollars on the cost of

reading a meter. As technology continues to improve and the AMR systems can be used for a variety of applications, then Fleming-Mason will make the investment.
Inter-County has budgeted approximately $4.6 million for the installation of AMR technology. The Construction Work Plan, Case No. 2009-00143, is currently pending before the Commission, which includes the AMR Installation Project. Anticipated installation timeline is beginning in 2010 with completion expected in 2011.
Shelby is actively reviewing three AMI systems and is in the stage of narrowing the selection to one with follow-up site visits in the near future to other utilities that utilize the compatible computer systems. A final financial study is the next step to determine the net effect to margins while also considering the benefits to members and the cooperative that may be difficult on which to place a dollar value. Shelby plans to make a determination no later than the final quarter of 2009.
South Kentucky continues to study the feasibility of AMR and is currently updating the analysis.

Request 9b. If AMR technology has not been considered, explain why not.

Response 9b. EKPC submits the following responses from the listed Member Systems.
Fleming-Mason, please see Fleming-Mason's response to Request 9a.
Inter-County notes that based on its response to Request 9a, the question is not applicable.
Shelby is considering AMI technology, so the question is not applicable.
South Kentucky, please see South Kentucky's response to Request 9a.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 11
RESPONSIBLE PERSON: **Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 11. Refer to response to Staff's Initial Data Request, Item 42. Explain why Grayson is unable to provide a reason as to why it has not sought approval to implement a DSM surcharge pursuant to KRS 278.285 for any DSM offering.

Response 11. EKPC submits the following response from Grayson.
As DSM costs become more defined, Grayson may consider implementing a DSM surcharge. Until then, those costs will be recovered through base rates.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 12
RESPONSIBLE PERSON: **Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 12. Refer to response to Staff's Initial Data Request, Item 120. Owen Electric states that the prospect of Stimulus Bill funds may expedite its efforts to install smart grid technology, but that such determination would depend on whether "the technology has crossed the threshold from bleeding technology to cutting edge technology." Explain in further detail what is meant by this statement.

Response 12. EKPC submits the following response from Owen.
The term "cutting edge technology" is referring to new technology that proves to be reliable, productive, and easily installed. Cutting edge technology improves efficiency and productivity throughout the organization. The term "bleeding edge technology" refers to new technology that is sold as "cutting edge" but unfortunately does not produce the expected results and proves to be a net drag on efficiency and productively throughout the organization. Over time "bleeding edge technology" drains an organization of its life giving creative and innovative energy. At some point "bleeding edge technology" is either abandoned or transformed into "cutting edge technology."

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 40
RESPONSIBLE PERSON: **Paul A. Dolloff/Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 40. Refer to the response of Duke Kentucky to Staff's Initial Data Request, Item 36, Attachment (a), pages 17-18. Describe the extent to which your plans for smart grid reflect the addition of infrastructure and new technology that will enhance the integration of demand response and energy efficiency into your system.

Response 40.

EKPC

Unlike Duke Kentucky, EKPC and its Member Systems are currently not members of the Electric Power Research Institute, Inc. (EPRI). EPRI conducts research and development relating to the generation, delivery and use of electricity for the benefit of the public. Though EPRI findings, improved products, and advanced technologies will eventually be available to the electric power industry, membership in EPRI provides an opportunity to direct the research efforts and participate in beta tests and pilot projects.

Duke Kentucky has subscribed to various EPRI initiatives including advanced smart grid technologies in both transmission and distribution. EKPC has engaged in the deployment of infrastructure and new technology on its transmission system to enhance the integration of demand response and energy efficiency. Specific projects include distribution SCADA, AMR/AMI, and demand response. EKPC is also developing and the Commission has approved a RTP pilot project.

Distribution SCADA. Distribution SCADA systems provide the platform on which automation and energy efficiency programs can reside. Currently, six EKPC Member Systems have a distribution SCADA system in place. Some Member Systems have installed SCADA systems from vendors while others are leveraging the EKPC EMS computer system. The EKPC EMS interfaces with hardware, software, and the telecomm necessary for a transmission based SCADA system. Expansion of the EKPC system is a cost effective way to provide the EKPC Member Systems with distribution SCADA. Currently, EKPC is preparing cost estimates for a number of the Member Systems interested in deploying distribution SCADA. In addition, EKPC is preparing a scope of work which will be used to secure bids for either replacement or upgrade of the current EMS. EKPC is working with the Kentucky Energy and Environment Cabinet to request federal Smart Grid stimulus funds to install distribution SCADA for all but one of the EKPC Member Systems.

AMR/AMI. Currently, twelve of the EKPC Member Systems have an AMR system in place. The majority of these systems use PLC technology. PLC uses the distribution wires as the telecomm vehicle to send meter information to a computer installed in the substation. These AMR substation computers are then linked via more traditional telecomm to the Member Systems headquarters. A two-way AMR system allows parameter to be sent from the substation computer to the individual meters in addition to receiving meter data. Only two-way systems can provide energy efficiencies by providing price signals and other data that can be used by the consumer to make energy consumption decisions. Eleven of the twelve Member Systems with AMR have, or are moving toward, a two-way AMR system. The remaining four Member Systems currently without AMR are preparing for AMR installations by preparing specifications and soliciting quotes. Regardless of the AMR technology selected by the Member Systems, EKPC is committed to providing any necessary infrastructure additions, upgrades, and improvements necessary for a complete and successful AMR installation. EKPC is working with the Kentucky Energy and Environment Cabinet to request federal Smart

Grid stimulus funds to install AMR systems on all five of the Member Systems currently without a two-way AMR system.

Demand Response. Building on the successful DSM pilot project, EKPC and the Member Systems have moved to the full deployment phase of the SimpleSaver DSM program. The five year SimpleSaver program is designed to add 10,000 control devices (hot water heaters and air conditioners) per year, which represents 50 MW of capacity at the conclusion of the five years. The use of pagers is the preferred method of communicating with the individual appliances. When pager service is not available, the AMR system (if it exists) will be used to communicate to the appliances. EKPC is currently developing software designed to activate the system (curtail power to these devices) by integrating the paging system with the various AMR systems. EKPC is working with the Kentucky Energy and Environment Cabinet to request federal Smart Grid stimulus funds to double the goal (50 to 100 MW) of the current SimpleSaver program.

RTP. One of the keys to a successful RTP program is the ability to provide real time prices to the participating customers in a timely manner. The proposed RTP program approved by the Commission is truly aggressive and forward thinking in that it is a true, two-tier system and provides firm prices, which are not adjusted after the fact by any regional marginal prices. This program will require the development of a web based communication vehicle and software development to determine accurate energy pricing information. The goal of providing the customer with a price signal is to shape a customer's usage profile (invoke a demand response) away from peak energy, high cost time periods.

Members

Big Sandy has recently deployed the TWACS AMR system that will accomplish much of what is needed for a smart grid, but a full SCADA system is not in the short-term plans.

Blue Grass has an active AMI meter program fully deployed throughout its system. Blue Grass is exploring the possibility of in-house devices/monitors to send price signals to its

members. Blue Grass is considering VHF radio frequencies for transmitting broadband data to system network devices and consumers' homes. This is being explored using existing Blue Grass communications towers and the possible addition of transmitters in areas without coverage from existing Blue Grass tower locations. Blue Grass believes this would enhance system grid communications and deployment of broadband to metering devices and possibly provide consumers broadband access to the Internet. Blue Grass' priority would be to communicate with system network devices in densely populated areas first, then moving down the line to less populated areas.

Clark is participating in or has plans to participate in the following:

- DLC program with EKPC – Clark is currently installing water heater and AC controls in selected areas with plans to expand across the system. Areas are limited to pager signal at this time.
- Two-way meter communication – currently Clark only has one-way communication to the member's meter. An upgrade to two-way communication to the meter is being included in the next work plan and should be implemented in the next couple of years. This upgrade will allow for DLC system wide and will not rely on pager signal plus a multitude of other benefits.
- SCADA – plans are to install SCADA in conjunction with EKPC in the near future. This will allow for better control of system loading, switching and etc.
- Power Cost Monitor – the monitor is attached to the member's meter which communicates to a display in the home. It allows the member to see the amount of electricity the home is using and the amount of money being spent.

Cumberland Valley is currently deploying Hunt Technologies TS2 automated meter reading devices on single phase meters. This is the extent to which Cumberland Valley plans smart grid infrastructure additions. Cumberland Valley believes this technology may eventually enhance demand response, but its impact on energy efficiency is

negligible, or at least uncertain, at this time. However, it may lead to increased consumer awareness of energy consumption which in turn may heighten energy conservation.

Farmers states that while not participating in EPRI's IntelliGrid Program as Duke Kentucky, it is evaluating or participating in projects which can be considered smart grid projects in an attempt to reduce demand or promote energy efficiency. Currently Farmers is partnering with EKPC in a DSM program utilizing demand control switches for HVAC units and water heaters to reduce system demand. These switches are controlled via a paging network or Farmer's 2-way AMI system. In addition, Farmers is evaluating demand reduction technologies utilizing our 2-way AMI system and technologies to provide real-time demand and usage data to members.

Fleming-Mason states that the smart grid is a hot topic in the industry, but when it reviews different trade magazines nobody defines it the same way. Fleming-Mason appreciates utilities such as Duke Kentucky taking the lead and trying to better define the smart grid. Fleming-Mason believes that the future of energy distribution will incorporate new technologies to allow better communication between the member and the utility. EKPC and the distribution cooperatives are starting to use controls for water heaters and air conditioners. Fleming-Mason and other cooperatives are testing devices to allow members to view their usage and how much that it costs in the hopes that these members will begin using energy more wisely. Fleming-Mason is looking at all communications technology and researching devices to be used in our rural area. This is a difficult task due to the terrain and low customer density. However, Fleming-Mason is committed to serving our members with reliable and cost-effective energy solutions through the smart grid.

Grayson states the extent to which its plans for smart grid infrastructure and new technology will enhance the integration of demand response and energy efficiency is currently being evaluated.

Inter-County plans for the addition of infrastructure and new technology in the installation of two-way communication AMR metering devices to be completed by 2011.

Jackson has an AMI system that is a smart grid foundation and communication link to all of its customers via a two-way power line carrier. Jackson is investigating opportunities with the AMI system that will allow additional demand response and energy efficiency programs to be offered to its customers. Jackson is investigating in-home displays and pre-paid metering through its AMI system. Jackson is also beta testing a new Demand Response Unit (DRU) that also allows DLC of water heaters and air conditioners with its AMI vendor. Satellites are installed at each substation for the transmission of the AMI data back to Jackson's control center.

Jackson also has SCADA at all substations. SCADA allows the real time flow of data from Jackson's substations to its control center. SCADA also allows the remote operation of the breakers inside the substation from Jackson's control center. This would also be considered a smart grid technology.

Licking Valley states that at this time it uses TS1 meters. Licking Valley hopes sometime in the future to switch to TS2 technology. The TS2 meter technology will enable two way communication which will enable Licking Valley to offer other services to its customers.

Nolin states that the present Landis+Gyr PLC two-way technology supports TOU, CPP, Load Control, and Prepay with In-Home Display units and whole house disconnect. Upgrading the substation processing units to the newer units (SPU-3000) allows hourly data as well as what is presently supported.

Owen is working with EKPC to utilize its current AMI system to implement a demand response pilot project benefiting Owen's members. The expansion of utilizing AMI with energy efficiency efforts is in the study mode as identified in Owen's strategic plan challenge 6, Key Action Item A4. We agree with Duke Kentucky's assessment of the state of current technology and the challenges of developing a common infrastructure and language that interfaces with existing information systems in place today.

Salt River has and will continue to work with EKPC for developing technology for a more efficient grid.

Shelby states that its AMI system will have two-way communications and as the project develops Shelby hopes to explore features to enhance better use of distributed resources. South Kentucky's existing demand response components have not required the addition of infrastructure or new technology. The ETS heat program uses internal time clocks to allow the units to store heat during off peak periods only. The water heater/air conditioning control program uses paging service from existing paging companies for communications. Any additional components added will likely use power line carrier technology if deployed. South Kentucky's area is not conducive to paging or cell phone coverage on a system wide basis.

Taylor County states that at present, it does not have plans for smart grid.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 41
RESPONSIBLE PERSON: **Paul A. Dolloff/Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 41. Refer to the response of Duke Kentucky to Staff's Initial Data Request, Item 36, Attachment (c), pages 49-50. Describe the extent to which your plans for smart grid incorporate the addition of communication infrastructure that will enhance the use of distributed resources on your system.

Response 41.

EKPC

Because Kentucky has a "net metering" law, the need to communicate to distributed resources (DR) is not necessary. In addition, the EKPC Co-Generation tariff provides a rate structure for those DR installations which can be "dispatched" (remotely turned on and off). Currently, there is only one customer on the entire EKPC system on the co-generation tariff. EKPC and the Member Systems are committed to integrating future co-generation customers based on the customers' equipment and the EKPC (and/or Member System) SCADA system.

Duke Kentucky has elected to support the EPRI initiative to expand the Common Information Model (CIM) to include data models to be used for smart meters. Technically, the CIM is an open standard that defines how managed elements in an Information Technology environment are represented as a common set of objects and relationships between them. The ultimate goal of the CIM is to define a comprehensive

set of data and relationship definitions for all aspects of an electric utility. This particular EPRI effort is designed to develop that portion of the CIM which defines all data that would be needed by a smart meter. Once all of the data fields and relationships have been defined, the ultimate goal is to have all smart meter manufacturers and AMR/AMI vendors use this common data platform for their products. If this can be accomplished, any CIM based revenue meter would be able to communicate with any CIM based AMR/AMI system, even if the two are provided by two different manufacturers/vendors. Though this is a lofty goal, the ability to provide two-way communications with smart meters does not depend on the success of the CIM effort. In the past, vendors have responded by including CIM interoperability without abandoning their preferred telecomm protocol.

Regardless of what telecomm protocol is used, basic telecomm infrastructure is required. EKPC continues to expand both its fiber optic network and its digital microwave system. This telecomm system, which networks EKPC and the Member Systems with each other, provides the backbone upon which any smart grid initiatives can be based.

Members

Big Sandy states that the TWACS system referenced in the response to Request 40 allows for constant communication with Big Sandy's meters. Other than this system, Big Sandy does not have any plans for further communication infrastructure.

Blue Grass, please see Blue Grass' response to Request 40.

Clark, please see Clark's response to Request 40.

Cumberland Valley currently has no firm plans for additional communications infrastructure.

Farmers has no future plans for additional communication infrastructure. All current evaluations of distributed resources will utilize our existing 2-way AMI system.

Fleming-Mason, please see Fleming-Mason's response to Request 40.

Grayson states this is not known at this time.

Inter-County plans for the addition of infrastructure and new technology in the installation of two-way communication AMR metering devices to be completed by 2011.
Jackson currently has a smart grid foundation with its AMI system. Jackson's communication infrastructure includes the AMI system, its SCADA system, and Jackson is currently reviewing proposals to convert its analog radio system to a digital system. As Jackson is investigating the opportunities with its AMI system, it is also reviewing the communication options in the radio system proposals.
The AMI system and metering equipment is compatible with distributed resources that may develop on Jackson's system. Jackson currently has one net metering customer and its existing infrastructure was adequate.
Licking Valley will review DSM and smart grid technology as it becomes available, affordable, and viable.
Nolin states that the Landis+Gyr PLC two-way solution communications is "IP" based enabling a wide variety of communication platforms to Nolin's distribution substations. The Command Center operating software release 4.0 supports a "consumer portal" that would require Nolin's configuration to those customers requesting their daily usage via the internet. There are also solid state residential meters that are supporting the Zigbee protocol for wireless communications to Zigbee appliances and thermostats as well as In-Home display panels updating usage and dollars.
Owen, please see Owen's response to Request 40.
Salt River partnered with EKPC using a mix of its infrastructure and EKPC's to develop demand response capability and to increase the efficiency of the grid. Salt River continues to consider partners to enhance the use of distributed resources, including third party options.
Shelby has not considered either option at this time but may explore at a later date.
South Kentucky service area is not of the terrain to allow system wide deployment and communication overage with cell phone or paging technology and will most likely use power line carrier technology.
Taylor County states that at present, it does not have plans for smart grid.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 42
RESPONSIBLE PERSON: **Paul A. Dolloff/Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 42. It does not appear from the testimony and data responses that any of the electric utilities are considering networking options for smart grid, such as partnering with broadband and mobile wireless providers to provide network connections, as opposed to investing in the construction of their own networks. Explain whether such partnering is being explored on either a utility-specific or industry-wide level.

Response 42.

EKPC

To date, true partnerships between EKPC and broadband and mobile wireless providers have not occurred. Telecomm needs are cost effectively provided by leveraging the EKPC owned and maintained telecomm network. The root cause of the vast majority of telecomm problems is the responsibility of the telecomm providers. These problems are most often associated with disturbances and problems with telephone land lines. Though improving, cellular phone, paging signals, and broadband services are simply not available in a very large portion of the EKPC Member System service territory. It is doubtful that the limited need of these services in remote areas would help cost justify the expansion of such services in these areas.

Partnerships between telecomm providers and the Member Systems may make more

sense in certain circumstances. Telecomm infrastructure and associated services could be offered to end consumers by leveraging existing distribution power delivery assets.

Members

Big Sandy is not currently considering these options, mostly due to the mountainous terrain in which it is located. This restriction has limited the availability of broadband and wireless networks in Big Sandy's service territory.

Blue Grass, please see Blue Grass' response to Request 40.

Clark is not exploring this option at this time.

Cumberland Valley is currently partnering with 3 telephone companies, 1 CATV company and 1 satellite company for provision of broadband internet connection services to 8 of 18 Cumberland Valley substations. These services are currently used primarily for communication to AMR data collectors at the substations. Additional services are planned where and when such services are or become available.

Farmers states that while it has no current plans for partnering with broadband or wireless providers, it routinely evaluates the existing communications networks of other entities to reduce infrastructure duplication and provide the most economical solution.

Fleming-Mason, please see Fleming-Mason's response to Request 40.

Grayson states this is not known at this time.

Inter-County is not exploring partnering with broadband and mobile wireless providers to provide network connections.

Jackson is not exploring partnering with broadband or mobile wireless partners.

Licking Valley is not considering partnering or exploring a utility-specific or industry-wide networking option for smart grid.

Nolin states that until the broadband technology becomes further developed and refined allowing higher speeds and longer propagation, it is not a viable cost solution. The industry is certainly moving to wireless data communications for commercial and residential access. Many utilities are intending to partner with communications providers

and not become the "communications provider" but maintain their core business principles.

Owen is currently working with its AMI vendor. If that approach is not fruitful we will examine all other options including broadband and mobile wireless networks.

Salt River has evaluated wireless providers and existing telecom systems, but found other providers' options at lower cost.

Shelby is involved in the process of evaluating installation of AMI across the distribution system.

South Kentucky states that a communication system does not currently exist that would allow system wide deployment. If South Kentucky installs AMI or other smart grid components it will use power line carrier to achieve full coverage.

Taylor County states that at present, it does not have plans for smart grid.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00408
SECOND DATA REQUEST RESPONSE

COMMISSION STAFF'S SECOND DATA REQUEST DATED 04/13/09
REQUEST 43
RESPONSIBLE PERSON: **Paul A. Dolloff/Isaac S. Scott**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 43. It does not appear from the testimony and data responses that any of the electric utilities have indicated to what extent they have prioritized the smart grid elements they plan to pursue. Provide a list showing how you have prioritized the items in your smart grid plan along with an explanation thereof.

Response 43.

EKPC

The following chart lists the priority of items in EKPC's smart grid plan.

Smart Grid Element	Priority
MV-90	High
Member System AMR	High
Microprocessor Relays	High
Data Recorders	High
OCAS	TBD*
Motor Operated Switches	High
DTCR	High
EMS Upgrade/Replacement	High
Distribution SCADA	Medium
DSM – SimpleSaver	High
Standard Fault Locators	High
SCADA Based Fault Locators	Low
Phasor Measurement Units	Low
Digital Communication Link with CCD	High

* To be determined

MV-90. EKPC is committed to integrating new large industrial customers into the MV-90 system. Energy consumption and power quality data will continue to be made available to these customers via the MV-90 web system or by other means as directed by the customer.

Member System AMR. Currently, all EKPC Member Systems without AMR/AMI or two-way AMR/AMI are actively engaged in justifying, determining costs, developing scopes of work, or soliciting bids.

Microprocessor Relays. For all new substations, EKPC has standardized the use of microprocessor based relays. EKPC is also committed to replacing all electro-mechanic relays in large substations with microprocessor based relays. Because of the expense, engineering requirements, and limited manpower available for installations, the replacement effort may take several years to complete.

Data Recorders. EKPC is committed to installing data recorders in all substations of 200kV and above as required by NERC/SERC.

Obstacle Collision Avoidance System (OCAS). The OCAS system was used on the EKPC 345 kV transmission line that crosses the Ohio River in Maysville, Kentucky. Experience with this system suggests that maintenance issues may outweigh benefits. For this reason, future use of the OCAS technology will require careful evaluation.

Motor Operated Switches. EKPC is committed to installing motor operated switches where benefits can be justified.

DTCR. EKPC is committed to considering implementing DTCR models when existing equipment reaches capacity limits. DTCR has shown to be a cost effective alternative to reconductoring and transformer replacements.

EMS Upgrade/Replacement. EKPC is currently developing a scope of work to be used to solicit bids for an EMS upgrade or full replacement. The current EMS system was installed, in part, just prior to 2000 to avoid software problems associated with Y2K.

Distribution SCADA. EKPC has successfully provided cost effective distribution SCADA systems to a handful of the Member Systems based on the EKPC EMS. At least one Member System is currently waiting for a cost estimate from EKPC to install distribution SCADA. Others are preparing to do the same. With that, EKPC is committed to providing this service to the Member Systems.

DSM – SimpleSaver. Due to the success of the pilot phase of the SimpleSaver DSM program, EKPC is committed to a five year deployment of this program.

Standard Fault Locators. EKPC has been using fault locators for over ten years. These devices are most valuable during restoration and limiting the search area when searching for damage.

SCADA Based Fault Locators. SCADA based fault locators will require in-house development. Because of limited funding and personnel, this project has been deemed a low priority.

Phase Measurement Units (PMU). On several occasions, EKPC has offered to provide TVA with PMUs data of the EKPC system. To date, TVA has expressed no interest in having this data from EKPC.

Members

Big Sandy states that other than the TWACS system referenced in the response to Request 40, it has no other components as part of a smart grid plan and nothing further to prioritize.

Blue Grass, please see Blue Grass' response to Request 40.

Clark, please see Clark's response to Request 40.

Cumberland Valley does not currently have a smart grid plan with any prioritized elements. However, to the extent that SCADA, at the substation level, and AMI pertains to or qualifies as smart grid technology, Cumberland Valley has deployed or is in the process of deploying these particular elements.

Farmers is currently deploying DSM switches in partnership with EKPC. All other smart grid elements are in early planning stages and thus have no priority or deadline associated.

Fleming-Mason, please see Fleming-Mason's response to Request 40.

Grayson states that its plan and prioritization is being developed at this time.

Inter-County has budgeted approximately $4.6 million for the installation of AMR technology. The Construction Work Plan, Case No. 2009-00143, is currently pending before the Commission, which includes the AMR Installation Project. Anticipated installation timeline is beginning in 2010 with completion expected in 2011.

Jackson, as mentioned previously, installed the foundation of the smart grid years ago with the implementation of the AMI system and SCADA. At this point, Jackson is investigating the opportunities available to enhance these and other communication systems. Jackson's projects follow:

a. Digital radio system upgrade: recommendation in July 2009 with plan and budget to be included in CWP by the end of 2009

b. Beta test of DRU unit with AMI system: beta test on-going

c. In-home displays and pre-paid metering: still investigating

Licking Valley wants to use TS2 meters as soon as they can be included in its budget. At this time it would cost about $600,000 to implement that technology.

Nolin states that there are (4) components of the Smart Grid Plan.

1. Interoperability
   a) Scalability / Upgrade / Security
2. Lessons Learned
3. Customer Service Forum / Survey
4. Nolin Smart Grid Plan
   a) Load Control
      (1) Will work in conjunction with EKPC to control water heaters and air conditioners.
      (2) Will work with EKPC for accounts that can do peak demand control.
   b) Work with EKPC to establish a program for consumer "in-home" display units.
   c) Customer portal as mentioned in Nolin's response to Request 41.

Owen states that AMI was installed first and is 90 percent plus operational today. The second step, to work with EKPC to deploy demand response programs benefiting its members, is in the pilot stage today. The third step is to investigate technological opportunities and develop a plan and pilot project to provide Owen's members with energy usages data and pricing information that enables its members to manage the kWh consumption, the monthly energy bill, and home comfort. All of the above efforts involve the development and deployment of "smart grid" technology. In addition Owen has recently launched a team to investigate and develop a five-year technology plan to guide Owen as it pursues new innovative technology to further improve member satisfaction.

Salt River's first priority is to partner with EKPC on their DSM Program. Secondly, Salt River is working to complete a second generation of AMR. Thirdly, Salt River plans to enhance its Outage Management Software. Finally, Salt River is exploring management of distributed resources with a third party.

Shelby has not developed a prioritized list of items concerning AMI. The first goal is a successful installation whereby accurate and timely meter readings are obtained for billing purposes, utilize during outage restoration in the future, disconnect non-payment accounts in a more timely manner and explore future features to provide better services to Shelby's members.

South Kentucky continues to study the feasibility of AMR and developing smart grid technology.

Taylor County states that at present, it does not have plans for smart grid.