

# Goss • Samford PLLC



Attorneys at Law

January 28, 2013

HAND DELIVERED

Mr. Jeff Derouen  
Executive Director  
Kentucky Public Service Commission  
211 Sower Boulevard  
Post Office Box 615  
Frankfort, Kentucky 40602

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**JAN 28 2013**

**PUBLIC SERVICE  
COMMISSION**

RE: PSC Case No. 2012-00428

Dear Mr. Derouen:

East Kentucky Power Cooperative, Inc. (EKPC), submits this filing in the above-referenced case on its own behalf and on behalf of its member systems: Big Sandy RECC, Blue Grass Energy Cooperative, Clark Energy Cooperative, Cumberland Valley Electric, Farmers RECC, Fleming-Mason Energy Cooperative, Grayson RECC, Inter-County Energy Cooperative, Jackson Energy Cooperative, Licking Valley RECC, Nolin RECC, Owen Electric Cooperative, Salt River Electric Cooperative, Shelby Energy Cooperative, South Kentucky RECC, and Taylor County RECC. Please find enclosed an original and ten copies of the testimony of Isaac S. Scott.

Please feel free to call if you have any questions.

Sincerely,

Mark David Goss  
Counsel

Enclosures

Cc: Parties of Record

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**CONSIDERATION OF THE IMPLEMENTATION )**  
**OF SMART GRID AND SMART METER )** **CASE NO.**  
**TECHNOLOGIES )** **2012-00428**

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**DIRECT TESTIMONY OF ISAAC S. SCOTT**  
**ON BEHALF OF EAST KENTUCKY POWER COOPERATIVE, INC.**  
**AND ITS 16 MEMBER DISTRIBUTION COOPERATIVES**

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**Filed: January 28, 2013**

1 **Q. Please state your name, business address, and occupation.**

2 A. My name is Isaac S. Scott and my business address is East Kentucky Power Cooperative,  
3 Inc. ("EKPC"), 4775 Lexington Road, Winchester, Kentucky 40391. I am the Manager  
4 of Pricing for EKPC.

5 **Q. Please state your education and professional experience.**

6 A. I received a B.S. degree in Accounting, with distinction, from the University of Kentucky  
7 in 1979. After graduation I was employed by the Kentucky Auditor of Public Accounts,  
8 where I performed audits of numerous state agencies. In December 1985, I transferred to  
9 the Kentucky Public Service Commission ("Commission") as a public utilities financial  
10 analyst, concentrating on the electric and natural gas industries. In August 2001, I  
11 became manager of the Electric and Gas Revenue Requirements Branch in the Division  
12 of Financial Analysis at the Commission. In this position I supervised the preparation of  
13 revenue requirement determinations for electric and natural gas utilities as well as  
14 determined the revenue requirements for the major electric and natural gas utilities in  
15 Kentucky. I retired from the Commission effective August 1, 2008. In November 2008,  
16 I became the Manager of Pricing at EKPC.

17 **Q. Please provide a brief description of your duties at EKPC.**

18 A. As Manager of Pricing, I am responsible for rate-making activities which include  
19 designing and developing wholesale and retail electric rates and developing pricing  
20 concepts and methodologies. I report directly to the Director of Regulatory Services.

21 **Q. What is the purpose of your testimony in this proceeding and upon whose behalf are  
22 you filing this testimony?**

23 A. The purpose of my testimony is to comply with the provisions of the Commission's  
24 October 1, 2012 Order in this case directing that initial testimony be filed by the

1 jurisdictional electric utilities. I am providing this testimony on behalf of EKPC and the  
2 following member distribution cooperatives (“Members”): Big Sandy RECC, Blue Grass  
3 Energy Cooperative Corp., Clark Energy Cooperative, Inc., Cumberland Valley Electric,  
4 Inc., Farmers RECC, Fleming-Mason Energy Cooperative, Inc., Grayson RECC, Inter-  
5 County Energy Cooperative Corporation, Jackson Energy Cooperative Corporation,  
6 Licking Valley RECC, Nolin RECC, Owen Electric Cooperative, Inc., Salt River Electric  
7 Cooperative Corp., Shelby Energy Cooperative, Inc., South Kentucky RECC, and Taylor  
8 County RECC.

9 **Q. What topics are to be addressed in the initial testimony?**

10 A. On page 8 of the October 1, 2012 Order, the Commission directed that the initial  
11 testimony shall address, but not be limited to, the Energy Independence and Security Act  
12 of 2007 (“EISA 2007”) Smart Grid Investment Standard, the EISA 2007 Smart Grid  
13 Information Standard, the March 25, 2011 Report of the Joint Parties,<sup>1</sup> the March 25,  
14 2011 Joint Comments of the Attorney General (“AG”) and the Community Action  
15 Council for Lexington-Fayette, Bourbon, Harrison and Nicholas Counties, Inc. (“CAC”),  
16 the September 18, 2012 report titled Kentucky’s Smart Grid Roadmap (“Smart Grid  
17 Roadmap”),<sup>2</sup> and dynamic pricing.

18 **EISA 2007 Smart Grid Investment Standard**

19 **Q. What are the requirements of the EISA 2007 Smart Grid Investment Standard?**

20 A. Section 1307, part 16 of the EISA 2007 contains the Smart Grid Investment Standard.  
21 This section of the EISA amends the Public Utility Regulatory Policies Act of 1978

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<sup>1</sup> The Joint Parties was a collaborative of all the utilities of record in Administrative Case No. 2008-00408.

<sup>2</sup> The Smart Grid Roadmap is a document resulting from the Kentucky Smart Grid Roadmap Initiative, a collaborative effort between the University of Louisville’s Conn Center for Renewable Energy Research and the University of Kentucky’s Power and Energy Institute to analyze the existing power infrastructure in Kentucky and develop recommendations for future grid modernization efforts. See the October 1, 2012 Order at page 7.

1 (“PURPA”). Part 16 has three parts. The first part, titled “In General” requires that  
2 “Each State shall consider requiring that, prior to undertaking investments in  
3 nonadvanced grid technologies, an electric utility of the State demonstrate to the State  
4 that the electric utility considered an investment in a qualified smart grid system based on  
5 appropriate factors, including (i) total costs; (ii) cost-effectiveness; (iii) improved  
6 reliability; (iv) security; (v) system performance; and (vi) societal benefit.” The second  
7 part, titled “Rate Recovery” requires that “Each State shall consider authorizing each  
8 electric utility of the State to recover from ratepayers any capital, operating expenditure,  
9 or other costs of the electric utility relating to the deployment of a qualified smart grid  
10 system, including a reasonable rate of return on the capital expenditures of the electric  
11 utility for the deployment of the qualified smart grid system.” The last part, titled  
12 “Obsolete Equipment” requires that “Each State shall consider authorizing any electric  
13 utility or other party of the State to deploy a qualified smart grid system to recover in a  
14 timely manner the remaining book-value costs of any equipment rendered obsolete by the  
15 deployment of the qualified smart grid system, based on the remaining depreciable life of  
16 the obsolete equipment.”

17 **Q. Did the Commission previously rule on the adoption of the Smart Grid Investment**  
18 **Standard, and if so, why is it being considered as part of this case?**

19 A. In the October 6, 2011 Order in Administrative Case No. 2008-00408, the Commission  
20 did adopt the Smart Grid Investment Standard. However, the electric generating utilities  
21 filed motions requesting rehearing and clarification and suggested adoption of the Smart  
22 Grid Investment Standard be deferred, given the Commission’s expressed intent to  
23 establish a new administrative proceeding to address smart grid and smart meter issues.  
24 The Commission granted the request for rehearing and consideration of deferral in its

1 November 17, 2011 Order. In the July 24, 2012 Order, the Commission amended the  
2 October 6, 2011 Order, finding and ordering that the Smart Grid Investment Standard  
3 would not be adopted at that time and a decision on whether to adopt that standard would  
4 be deferred to the completion of a new Smart Grid/Smart Meter administrative case.

5 **Q. What is EKPC's and its Members' position concerning the adoption of the Smart**  
6 **Grid Investment Standard?**

7 A. In Administrative Case No. 2008-00408 EKPC and its Members took the position that the  
8 Commission should not adopt the Smart Grid Investment Standard as proposed. EKPC  
9 and its Members suggested as an alternative that the Commission consider establishing a  
10 collaborative process with the utilities and other stakeholders to monitor Smart Grid  
11 developments, identify promising new technologies and concepts, and to potentially  
12 engage in pilot programs on a voluntary basis that appear to offer net benefits. In the four  
13 years since taking that position, EKPC and its Members have monitored Smart Grid  
14 information and participated in the development of the March 25, 2011 Report of the  
15 Joint Parties. EKPC and its Members still take the position that the Commission should  
16 not adopt the Smart Grid Investment Standard or a Kentucky-specific version of the  
17 Standard at this time.

18 **Q. Would you explain why this is still the position of EKPC and its Members?**

19 A. Yes. To the extent required by current statutes and regulations, EKPC and its Members  
20 believe that the Commission has sufficient authority to evaluate the reasonableness of a  
21 utility's proposed investment in either nonadvanced grid technologies or qualified smart  
22 grid systems. EKPC and its Members also believe the consideration of total costs, cost-  
23 effectiveness, improved reliability, security, and system performance are all reasonable  
24 and appropriate factors to consider when evaluating either nonadvanced grid technologies

1 or qualified smart grid systems. We further believe the Commission has previously taken  
2 these factors into consideration when reviewing utility investments. However, EKPC and  
3 its Members oppose the inclusion of “societal benefits” when evaluating the  
4 reasonableness of a proposed investment in either nonadvanced grid technologies or  
5 qualified smart grid systems. While other states have incorporated the consideration of  
6 societal benefits when evaluating the reasonableness of a utility investment, Kentucky  
7 has not, and the fact that the investment may be a qualified smart grid system does not  
8 warrant such a change now. Further, the societal benefits associated with qualified smart  
9 grid systems would be extremely difficult to quantify, especially when customer  
10 acceptance of a particular qualified smart grid system is not certain as appears to be the  
11 case at this time.

12 EKPC and its Members believe that the Commission has previously provided for  
13 recovery through rates of those capital investments, operating expenditures, and other  
14 associated costs of utility investment found to be reasonable and cost-effective. There  
15 should be no deviation from this approach simply because the investment may be a  
16 qualified smart grid system.

17 Lastly, EKPC and its Members believe obsolescence needs to be addressed when  
18 considering the deployment of qualified smart grid systems. Several of the Members  
19 have been faced with this issue in conjunction with their deployment of Advanced  
20 Metering Infrastructure (“AMI”). However, timely recovery of the remaining book value  
21 of obsolete equipment may not be possible if the recovery is based exclusively on the  
22 remaining depreciable life of the obsolete equipment. The Commission’s experience  
23 with the telecommunications industries dealing with technological obsolescence may be  
24 helpful in determining the factors to be considered when establishing timely recovery.

1 **Q. In Administrative Case No. 2008-00408 EKPC and its Members suggested the**  
2 **alternative that a collaborative process may be more appropriate to deal with**  
3 **investment issues the Smart Grid Investment Standard tries to address. What is**  
4 **EKPC and its Members position concerning a collaborative process?**

5 A. EKPC and its Members are willing to participate in a collaborative process with the other  
6 jurisdictional electric utilities as we try to sort through and resolve these issues related to  
7 Smart Grid investments. In the October 1, 2012 Order that initiated this case, the  
8 Commission noted the collaborative efforts of the jurisdictional utilities in Administrative  
9 Case No. 2008-00408 that resulted in the March 25, 2011 Report of the Joint Parties.  
10 The Commission also indicated that the procedural schedule in this case was developed  
11 with a continuation of that previous collaborative effort in mind. Consequently, it  
12 appears now that a collaborative process may be preferable as a part of the overall  
13 approach to addressing Smart Grid investments, rather than an alternative approach.

14 **EISA 2007 Smart Grid Information Standard**

15 **Q. What are the requirements of the EISA 2007 Smart Grid Information Standard?**

16 A. Section 1307, part 17 contains the Smart Grid Information Standard. Like the Smart Grid  
17 Investment Standard contained in part 16, this section of the EISA amends PURPA. Part  
18 17 has three parts. The first part, titled “Standard” requires that “All electricity  
19 purchasers shall be provided direct access, in written or electronic machine-readable form  
20 as appropriate, to information from their electricity provider as provided in subparagraph  
21 (B).” The second part, titled “Information” and referenced as “subparagraph (B)”  
22 requires that any information provided under this section, to the extent practicable, shall  
23 include the following four components:

1 “(i) Prices – Purchasers and other interested persons shall be provided with information  
2 on (I) time-based electricity prices in the wholesale electricity market; and (II) time-based  
3 electricity retail prices or rates that are available to the purchasers.”

4 “(ii) Usage – Purchasers shall be provided with the number of electricity units, expressed  
5 in kWh, purchased by them.”

6 “(iii) Intervals and Projections – Updates of information on prices and usage shall be  
7 offered on not less than a daily basis, shall include hourly price and use information,  
8 where available, and shall include a day-ahead projection of such price information to the  
9 extent available.”

10 “(iv) Sources – Purchasers and other interested persons shall be provided annually with  
11 written information on the sources of the power provided by the utility, to the extent it  
12 can be determined, by type of generation, including greenhouse gas emissions associated  
13 with each type of generation, for intervals during which such information is available on  
14 a cost-effective basis.”

15 The last part, titled “Access” requires that “Purchasers shall be able to access their own  
16 information at any time through the Internet and on other means of communication  
17 elected by that utility for Smart Grid applications. Other interested persons shall be able  
18 to access information not specific to any purchaser through the Internet. Information  
19 specific to any purchaser shall be provided solely to that purchaser.”

20 **Q. In Administrative Case No. 2008-00408, none of the jurisdictional electric utilities**  
21 **expressed support for the adoption of the Smart Grid Information Standard. In its**  
22 **October 6, 2011 Order, the Commission declined to adopt the Smart Grid**  
23 **Information Standard at that time and concluded that it would be further addressed**  
24 **as part of a new proceeding reviewing Smart Meter and Smart Grid deployment**

1 **issues. What is the current position of EKPC and its Members concerning the**  
2 **Smart Grid Information Standard?**

3 A. EKPC and its Members have again reviewed the Smart Grid Information Standard and  
4 have concluded and recommend for a second time that the Commission not adopt this  
5 standard at this time. EKPC and its Members believe that the deployment of Smart Grid  
6 and Smart Meter applications are still in the developmental stage and thus information  
7 needs are not clearly defined. The Smart Grid Information Standard appears to have been  
8 developed on the assumption that all or a significant majority of a utility's customers  
9 were paying for electricity under time-based or time-of-use pricing options. Certainly the  
10 pricing, interval, and projection information requirements of subparagraph (B) of the  
11 Smart Grid Information Standard would be necessary to support time-based or time-of-  
12 use pricing options. However, EKPC and its Members believe the offering of time-based  
13 or time-of-use pricing options currently is limited to voluntary pilot programs and will  
14 likely remain so for some time. Consequently, at the present time there is no need to  
15 require utilities to provide the extensive pricing, interval, and projection information the  
16 Smart Grid Information Standard requires.

17 EKPC and its Members also note that the Smart Grid Information Standard is silent  
18 concerning the costs that will be incurred to provide the information detail required. In  
19 fact, the "Sources" section of subparagraph (B) is the only section to include the  
20 consideration of the information being available on a cost-effective basis. Developing  
21 and maintaining data bases to provide the information required in subparagraph (B) of the  
22 Smart Grid Information Standard will require investments in equipment and software and  
23 require the dedication of personnel which will result in additional costs for the utility.  
24 Unlike the Smart Grid Investment Standard, the Smart Grid Information Standard does

1 not address the issue of the recovery of the costs of providing these information  
2 requirements.

3 EKPC and its Members are concerned by the requirements of the “Access” section of the  
4 Smart Grid Information Standard. Making customer energy use information available in  
5 real time and accessible through the Internet may make utilities subject to privacy laws  
6 that previously were not a utility concern. Concerns for the privacy of customer  
7 information make the access issue much more complex than simply making the  
8 information available.

9 Finally, EKPC and its Members have a concern about the lack of a definition of who  
10 “other interested persons” are, as referenced in the Smart Grid Information Standard.

11 EKPC and its Members have reviewed Title XIII of the EISA 2007, Sections 1301  
12 through 1309, which address the Smart Grid, and specifically Section 1307 which  
13 includes the Smart Grid Information Standard. There is no definition of the term “other  
14 interested persons” provided anywhere in these sections. “Other interested persons”  
15 could mean university personnel studying customer usage and response patterns,  
16 regulatory commission personnel examining shifts in customer consumption due to new  
17 time-of-use pricing options, or competing utilities looking for customer blocks to “cherry  
18 pick” from the incumbent utility.

19 **March 25, 2011 Report of the Joint Parties**

20 **Q. What is the March 25, 2011 Report of the Joint Parties and were EKPC and its**  
21 **Members involved in the development of the report?**

22 A. The March 25, 2011 Report of the Joint Parties was the joint response to issues raised in  
23 the Commission Staff’s February 19, 2010 Smart Meter and Smart Grid Guidance  
24 Document that was part of Administrative Case No. 2008-00408. The joint response was

1 prepared through a collaborative effort by all the jurisdictional electric and natural gas  
2 utilities that were parties to that case. EKPC and its Members participated in the  
3 discussions and conference calls that were part of the collaborative effort. While the AG  
4 and CAC were included in some of the discussions, those groups decided it was more  
5 appropriate for them to submit comments separately.

6 **Q. Does EKPC and its Members continue to agree with the discussions and conclusions**  
7 **contained in the March 25, 2011 Report of the Joint Parties?**

8 A. Yes, EKPC and its Members continue to be in agreement with the discussions and  
9 conclusions contained in the report. We also believe certain topics covered in the report  
10 need additional emphasis or comment. This additional emphasis and comments will be  
11 covered in the following pages of my testimony.

12 **Q. How will your presentation of this additional emphasis and comments be organized?**

13 A. The topic or subject lines from the March 25, 2011 Report along with the applicable page  
14 number from the report will be listed and then the additional emphasis or comments of  
15 EKPC and its Members will follow.

16 5. Benefits from Smart Meter Functionality – pages 12 through 14. EKPC and its  
17 Members believe that the benefits listed in this section represent reasonable *potential*  
18 benefits resulting from Smart Meter deployment. However, in many instances potential  
19 benefits becoming actual benefits is heavily dependent upon customer acceptance of the  
20 Smart Meter and the customer's willingness to act upon the information provided via the  
21 Smart Meter. Consequently, while it is reasonable to expect many of these benefits will  
22 occur with Smart Meter deployment, the listed benefits cannot be guaranteed to occur by  
23 the utility at this time.

1 6. Benefits from Smart Grid Functionality – pages 15 through 17. Similar to the benefits  
2 from Smart Meter functionality, EKPC and its Members believe that the benefits listed in  
3 this section represent reasonable *potential* benefits resulting from Smart Grid  
4 deployment. However, in some cases the listed benefit is based on carrying the  
5 deployment to its logical conclusion. Quantifying that the benefit has occurred will either  
6 be difficult to do or not possible at all. So while it is reasonable to expect many of these  
7 benefits will occur with Smart Grid deployment, the listed benefits cannot be guaranteed  
8 to occur by the utility at this time.

9 7. The Quantification of Smart Grid and Smart Meter Benefits – pages 20 through 23.

10 EKPC and its Members believe that while cost/benefit analysis is a critical step in  
11 determining whether to pursue deployment of Smart Grid or Smart Meter technologies,  
12 the analysis is complicated by the possible involvement of third parties in the  
13 deployment, the magnitude of the investments required, the acceptance of the technology  
14 by customers, and the risk of adopting new technology. The utilization of the cost/benefit  
15 tests that have traditionally been used to evaluate demand-side management programs  
16 appears to be reasonable, given the critical importance of recognizing the benefits from a  
17 particular Smart Grid or Smart Meter deployment. EKPC and its Members agree with  
18 the following points noted on page 22 of the report: a) the cost/benefit analysis will vary  
19 for each utility, b) the costs and benefits that are quantified in the analysis are done as a  
20 snapshot in time, and c) the timing of future rate cases will impact the recognition of  
21 capital cost recovery and operational improvements.

22 8. Avoiding Smart Grid and Smart Meter Obsolescence – pages 23 and 24. EKPC and  
23 its Members believe the attributes identified by the National Association of Regulatory  
24 Utility Commissioners to be considered when assessing technology obsolescence –

1 upgradeability, latency, and bandwidth – are reasonable. Further, EKPC and its Members  
2 believe that consideration of a particular technology’s level of deployment, the  
3 development of standards by professional organizations, and the evaluation of vendors  
4 are reasonable non-technical attributes that should be considered when evaluating the risk  
5 of obsolescence. However, while EKPC and its Members agree that utilities should take  
6 steps to mitigate the risk of obsolescence of technology included in Smart Grid or Smart  
7 Meter deployments, there is also the issue of the obsolescence and associated cost  
8 recovery of the assets being replaced by the Smart Grid or Smart Meter deployment that  
9 should be addressed.

10 10. Consumer Attitudes and Preferences Toward Energy Information Devices and

11 Demand Response programs (“DR”) – pages 28 through 31. EKPC and its Members

12 believe that the results of time-of-use and critical peak pricing pilot programs in other  
13 jurisdictions can provide insight into how pilot programs in Kentucky could be designed.  
14 However, the results of the pilot programs in other jurisdictions should not be viewed as  
15 predicting the success or failure of Kentucky pilot programs. EKPC and its Members  
16 strongly believe that each utility in Kentucky should be allowed to individually explore  
17 time-of-use, critical peak pricing, and other related pilot programs. There is enough  
18 diversity among the customers of the jurisdictional utilities in Kentucky to warrant  
19 avoiding one-size fits all approaches or establishing mandatory state-wide pilot programs.  
20 EKPC and its Members agree that there is a need for extensive customer education  
21 concerning DR and variable rate structures when offering pilot programs. However, the  
22 education effort for customers participating in the pilot programs must focus on the risks  
23 and responsibilities of the participants as well as explaining program function and  
24 potential customer benefits.

1 12. Cost Recovery Issues and Mechanisms – pages 33 through 37. EKPC and its  
2 Members believe the Commission currently has adequate and reasonable mechanisms in  
3 place to evaluate possible Smart Grid or Smart Meter deployments by a utility and agrees  
4 with the March 25, 2011 Report that new mechanisms are not needed. While there are  
5 basic differences between investor-owned and cooperative utilities, EKPC and its  
6 Members believe that the Commission’s evaluation process of Smart Grid or Smart Meter  
7 deployments should essentially be the same for all utilities. EKPC and its Members  
8 agree with the March 25, 2011 Report when it noted that decisions to invest in Smart  
9 Grid or Smart Meter technologies are based on the available information at the time of  
10 the investment decision. If the emerging technology that was implemented fails to  
11 deliver the degree of benefits originally identified, the original investment decision and  
12 subsequent allowance of recovery should not be reversed or changed if the investments  
13 were prudent at the time the decision was made. EKPC and its Members recognize that  
14 this position makes it incumbent on the utility to secure the best possible information  
15 available at the time an investment decision is made and a deployment undertaken.  
16 Concerning the appropriate cost recovery methodology to employ for Smart Grid or  
17 Smart Meter deployments, EKPC and its Members believe the Commission should  
18 maintain flexibility and consider either rate case recovery or recovery through a rider  
19 mechanism. The size of the investment, the financing approach, and whether the utility is  
20 investor-owned or a cooperative could very well warrant different approaches for  
21 essentially the same type of deployment.

22 13. Cyber Security Issues – pages 37 through 40. The variety and complexity of cyber  
23 security issues can be overwhelming. However, EKPC and its Members would suggest  
24 that the cyber security costs associated with Smart Grid deployments does not end with

1 the initial installation, but is an on-going financial commitment. Utility experience with  
2 the North American Electric Reliability Corporation standards relating to cyber security  
3 has shown cyber security and compliance with standards is quite expensive.

4 **Q. Does EKPC and its Members still agree with the comments and conclusions listed**  
5 **under “Best Practices, Lessons Learned, and Recommendations” on page 50 of the**  
6 **March 25, 2011 Report?**

7 A. As stated previously in this testimony, EKPC and its Members continue to agree with the  
8 recommendation that the Commission should not adopt either the EISA 2007 Smart Grid  
9 Investment Standard or the EISA 2007 Smart Grid Information Standard or any variation  
10 thereof. EKPC and its Members continue to agree with the recommendation that pilot  
11 programs and trials designed to understand customer behavior and investigate how best to  
12 integrate emerging technology into existing infrastructure should be continued. Lastly,  
13 EKPC and its Members continue to agree with the conclusion that customer education  
14 about the benefits of energy efficiency and specifically smart technology is critical to  
15 gaining consumer acceptance and employment of this technology. However, EKPC and  
16 its Members further believe consumer education needs to address the customer risks and  
17 customer responsibilities as well as the customer benefits of smart technology.

18 **Q. Are there any final points relating to the March 25, 2011 Report that EKPC and its**  
19 **Members believe are worthy of attention?**

20 A. Yes. EKPC and its Members believe that given the state of development of smart  
21 technologies, utilities generally cannot guarantee that all potential benefits that could be  
22 gained from deployment will occur. The traditional cost/benefit analyses utilized for  
23 demand-side management programs is a reasonable approach, but it must be recognized  
24 that quantifying benefits related to Smart Grid and Smart Meter deployments can be

1 difficult. It must be recognized that benefits relating to consumer acceptance of these  
2 technologies are generally going to be difficult to determine and cannot be guaranteed by  
3 the utilities. And finally, the prudence standard currently utilized for utility investments  
4 today should be the same used for investments in Smart Grid and Smart Meter  
5 deployments. Prudence should be determined by reviewing the information that was  
6 available at the time the investment decision was made and not at a point in time after  
7 deployment.

8 **March 25, 2011 Joint Comments of the AG and CAC**

9 **Q. How are the March 25, 2011 Joint Comments of the AG and CAC related to the**  
10 **March 25, 2011 Report of the Joint Parties?**

11 A. As noted previously, the March 25, 2011 Report of the Joint Parties was the result of a  
12 collaborative effort between all the jurisdictional electric and natural gas utilities that  
13 addressed issues raised in the Commission Staff's Smart Meter and Smart Grid Guidance  
14 Document dated February 19, 2010. During the collaborative effort, representatives of  
15 the AG and CAC were included in some of the discussions and preliminary drafts of the  
16 March 25, 2011 Report were shared with the AG and CAC. Prior to the jurisdictional  
17 electric and natural gas utilities issuing the March 25, 2011 Report, the AG and CAC  
18 determined it would be more appropriate for them to submit their comments on the report  
19 simultaneously with the filing of the report by the utilities. Thus, the March 25, 2011  
20 Joint Comments of the AG and CAC relate directly to the contents of the March 25, 2011  
21 Report of the Joint Parties.

22 **Q. Does EKPC and its Members take a position concerning the March 25, 2011 Joint**  
23 **Comments of the AG and CAC?**

1 A. EKPC and its Members are in agreement with many of the comments of the AG and  
2 CAC on several topics. However, there are several specific comments EKPC and its  
3 Members seriously disagree with.

4 **Q. Would you identify these areas of agreement and disagreement?**

5 A. Yes. I will follow the outline presented in the March 25, 2011 Joint Comments.

6 1. Introduction – pages 1 and 2. EKPC and its Members tend to agree with the AG and  
7 CAC that it is possible a Smart Grid deployment on one Kentucky utility’s grid will not  
8 necessarily work in a cost-effective manner on another Kentucky utility’s grid. However,  
9 EKPC and its Members do not agree that the deployment of AMI is a valid example of  
10 this point. EKPC and its Members tend to agree with the AG and CAC that Smart Grid  
11 investments should provide value that is measurable; however, there are concerns about  
12 requiring the investment provide “significant” value to customers. The determination of  
13 “significant” value to customers can be difficult and very subjective.

14 2. The Main Issue: Cost – pages 2 through 4. EKPC and its Members agree that a major  
15 issue associated with the deployment of Smart Grid and Smart Meter technologies is the  
16 cost. EKPC and its Members also agree that the decision making process for these  
17 technologies should include a thorough cost/benefit analysis, based on the best  
18 information available at the time the decision is made. While EKPC and its Members  
19 acknowledge that in any proposed Smart Grid or Smart Meter deployment the anticipated  
20 benefits should be realistic and to the extent possible achievable, we respectfully disagree  
21 with the AG and CAC’s position that the utility should be viewed as guaranteeing the  
22 anticipated benefits. Especially in deployments involving Smart Meters, the achievability  
23 of the benefits is significantly dependent upon customer response and participation,  
24 which often is not determinable prior to deployment. On page 3 the AG and CAC state,

1 “Utilities should also bear the risk that their project design was faulty or that the chosen  
2 technologies fail to conform to pending national interoperability and cyber-security  
3 standards.” EKPC and its Members agree that every effort should be made when  
4 developing a Smart Grid or Smart Meter project the best and most current information  
5 should be utilized in the design and compliance with national standards should be a  
6 priority. However, utilities should not bear all the risks if a prudently developed project  
7 later is determined to have a faulty design or national standards later change resulting in  
8 the project not being in compliance. Also on page 3 the AG and CAC included three  
9 recommendations relating to risk responsibility for utilities: a) proposed investments in  
10 Smart Meter and Smart Grid technologies should be justified by a robust cost/benefit  
11 analysis; b) the implementation of Smart Meter and Smart Grid investments should be  
12 accompanied by measurable and enforceable performance metrics; and c) Smart Meter  
13 and Smart Grid investments must be subject to prudence reviews and audits to determine  
14 if the consumer benefits have been delivered as promised. EKPC and its Members can  
15 agree with the first recommendation that proposed Smart Meter and Smart Grid  
16 investments should be examined and evaluated utilizing thorough cost/benefit analysis.  
17 Concerning the second recommendation, while monitoring implementation with  
18 performance metrics could be beneficial, EKPC and its Members would point out that  
19 given the developmental stage of most Smart Grid and Smart Meter technologies it will  
20 be extremely difficult to determine the appropriate performance metrics. As for the last  
21 recommendation, EKPC and its Members must respectfully oppose any change in the  
22 prudence standard. The prudence of any utility investment must be evaluated looking at  
23 the information available at the time the decision was made to undertake the project.  
24 Prudence reviews are not performed to somehow guarantee the potential consumer

1 benefits identified in a project are actually achieved. On page 4 the AG and CAC note a  
2 regulatory treatment adopted by the California Public Utility Commission concerning the  
3 deployment of Smart Meters. According to the AG and CAC, the California Commission  
4 requires that a utility's estimated operational costs are required to be booked as the Smart  
5 Meters are deployed and the risk that the operational benefits will not occur rests  
6 primarily with the utility. However, any utility revenue enhancement opportunities  
7 stemming from the Smart Meter deployment must be shared with consumers. EKPC and  
8 its Members believe that such a risk sharing arrangement is not consistent with  
9 established rate-making practice concerning risk sharing. Under this treatment, the utility  
10 bears all the risk of achieving operational benefits, but must share any other associated  
11 benefits with customers. EKPC and its Members believe that the sharing of risks must be  
12 balanced between the utility and the customer and not heavily weighted to one group or  
13 the other.

14 2.a. Avoidance of Stranded Costs – page 4. While EKPC and its Members agree that to  
15 the extent possible stranded costs should be avoided, we do not agree with the AG and  
16 CAC that the inclusion of stranded cost recovery should be linked to the existence of  
17 ratepayer benefits that could result in significant, real monetary savings. Despite the best  
18 efforts of all participants, technological obsolescence can and likely will occur and  
19 stranded cost recovery should not be denied simply because associated ratepayer benefits  
20 are minimal or insignificant.

21 3. TOU (Time-of-Use) Rates – pages 5 through 7. EKPC and its Members agree with  
22 the statement by the AG and CAC that the Commission should never require mandatory  
23 time-of-use rates, but rather such rates should be available as an option for ratepayers.  
24 On page 6 the AG and CAC encourage the Commission to investigate the use of four

1 alternatives to time-of-use rates. While EKPC and its Members generally agree the first  
2 three listed alternatives should be considered, we respectfully disagree with the fourth  
3 alternative – “avoiding the imposition of utility rate structures with higher fixed customer  
4 charges.” EKPC and its Members support the Commission’s long established practice of  
5 basing rate design on cost of service study results. The AG and CAC’s suggestion that  
6 utilities have higher energy charges simply to encourage conservation ignores basic rate  
7 design concepts which encourage collecting fixed costs through fixed charges, like the  
8 customer charge, and collecting variable costs through variable charges, like the energy  
9 charge. Designing rates that have fixed cost recovery achieved through energy charges  
10 while promoting energy efficiency and conservation creates a disincentive for the utility  
11 to pursue the energy efficiency because of shortfalls in fixed cost recovery. EKPC and its  
12 Members would also note that attempting to recover the fixed costs through the use of the  
13 demand side management cost recovery mechanism will not solve this problem, for the  
14 DSM charges have usually been variable charges rather than fixed.

15 4. Basic Consumer Protections; Disconnects – page 7. EKPC and its Members would  
16 agree that the ability to remotely connect or disconnect a customer may require changes  
17 to how disconnects are handled by the utility.

18 5. Cyber Security and Privacy – pages 8 through 11. EKPC and its Members agree with  
19 the AG and CAC that the issues of cyber security and customer privacy are very  
20 important and must be addressed as part of an overall deployment strategy of Smart Grid  
21 or Smart Meter technology. In their Joint Comments, the AG and CAC noted cyber  
22 security standards considered by the 27<sup>th</sup> International Data Protection Commissioners  
23 Conference and the 2010 Smart Grid Operability Summit. Both of these activities were  
24 sponsored by the Information and Privacy Commissioner of Ontario, Canada. However,

1 it is not clear that either set of standards developed during these conferences have been  
2 adopted as official policy by the Canadian government. EKPC and its Members believe  
3 that the work of the U. S. Department of Commerce National Institute of Standards and  
4 Technology (“NIST”) should be the main source for guidance on cyber security and  
5 privacy issues. Under the EISA 2007, the NIST has been given the primary  
6 responsibility to coordinate development of a framework that includes protocols and  
7 model standards for information management to achieve interoperability of Smart Grid  
8 devices and systems. The NIST issued a three-volume report in 2010 on cyber security  
9 and privacy, NISTIR 7628, noting the work was a starting point and foundation on which  
10 to develop practices to address cyber security and privacy issues. As standards to address  
11 cyber security and privacy issues are continuing to be developed, EKPC and its Members  
12 would suggest that as part of any proposed Smart Grid deployment the utility  
13 demonstrate that it had reviewed NISTIR 7628 and other NIST publications and had  
14 developed practices to address cyber security and privacy issues accordingly. As the  
15 EISA 2007 has established the NIST as developer of protocols and standards, EKPC and  
16 its Members believe the Canadian standards should be viewed as general reference  
17 material rather than compliance standards.

### 18 **Smart Grid Roadmap**

19 **Q. What is the Smart Grid Roadmap and who prepared the document?**

20 A. The Smart Grid Roadmap was released on September 18, 2012 and is the final report  
21 prepared by the Kentucky Smart Grid Roadmap Initiative (“KSGRI”). The KSGRI was a  
22 collaborative effort between the University of Louisville’s Conn Center for Renewable  
23 Energy Research and the University of Kentucky’s Power and Energy Institute of

1 Kentucky.<sup>3</sup> These two groups were engaged by the Commission to analyze the existing  
2 power infrastructure in Kentucky and develop recommendations for future grid  
3 modernization efforts.<sup>4</sup> KSGRI was to develop a technical roadmap for the development  
4 and deployment of Smart Grid technologies throughout Kentucky.<sup>5</sup> The resulting Smart  
5 Grid Roadmap “provides recommendations and best practices to utilities and utility  
6 stakeholders to guide individual Smart Grid deployment approaches.”<sup>6</sup> The Smart Grid  
7 Roadmap is supported by an information document prepared by KSGRI dated June 29,  
8 2012 and titled Smart Grids in the Commonwealth of Kentucky (“Smart Grids in  
9 Kentucky”).<sup>7</sup> Both the Smart Grid Roadmap and the Smart Grids in Kentucky have been  
10 made part of the record in the current proceeding.<sup>8</sup>

11 **Q. Has EKPC and its Members reviewed the Smart Grid Roadmap and are there any**  
12 **comments about the KSGRI?**

13 A. EKPC and its Members have reviewed both the Smart Grids in Kentucky and the Smart  
14 Grid Roadmap documents. EKPC and its Members believe that the original concept of  
15 the KSGRI was well intentioned and had potential. Given the complexities associated  
16 with Smart Grid and Smart Meter issues and deployments, it appeared reasonable to  
17 engage personnel from the university community to assist in evaluating and sorting  
18 through all the claims and promises various Smart Grid and Smart Meter vendors were  
19 making. Well reasoned, objective analysis from the university community could only  
20 help both utilities and the Commission as they deal with Smart Grid and Smart Meter  
21 issues.

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<sup>3</sup> October 1, 2012 Order at page 7.

<sup>4</sup> *Id.*

<sup>5</sup> Smart Grid Roadmap at page 2.

<sup>6</sup> *Id.* at page 9.

<sup>7</sup> October 1, 2012 Order at page 7.

<sup>8</sup> The Smart Grid Roadmap and Smart Grids in Kentucky documents were posted on the Commission’s website in the non-electronic case record section on September 18, 2012.

1           However, after reviewing the Smart Grid Roadmap and the Smart Grids in Kentucky  
2 documents and observing the operation of the KSGRI over the past two years, EKPC and  
3 its Members believe this project has fallen far short of its potential and contributes little  
4 to assist utilities and the Commission in dealing with Smart Grid and Smart Meter issues.  
5 EKPC and its Members have serious concerns about the Smart Grid Roadmap and as a  
6 result of those concerns, we cannot support the majority of the recommendations  
7 included in the Smart Grid Roadmap.

8   **Q.    What are the concerns that EKPC and its Members have about the Smart Grid**  
9   **Roadmap?**

10  A.   EKPC and its Members have concerns about the lack of inclusion of all Kentucky electric  
11 utilities in the development of the Smart Grid Roadmap; the credibility and accuracy of  
12 information included in the Smart Grid Roadmap and the Smart Grids in Kentucky  
13 documents; the contention that the Smart Grid Roadmap identified best practices; the  
14 failure to adequately explain the need or purpose of the numerous new groups and  
15 organizations the Smart Grid Roadmap recommends be created as well as how these  
16 groups and organizations are to be funded; the lack of analyses, explanation, or  
17 documentation offered to support several recommendations and comments made in the  
18 Smart Grid Roadmap; and the failure of the Smart Grid Roadmap to fully examine  
19 consumer education issues including the issue of opt-out proposals related to Smart Meter  
20 deployment.

21  **Q.    Would you discuss each of these concerns?**

22  A.   Yes. The first concern that EKPC and its Members have is the lack of inclusion of all  
23 Kentucky electric utilities in the development of the Smart Grid Roadmap. Throughout  
24 the Smart Grid Roadmap is the implication that the recommendations concerning Smart

1 Grid deployment are for all of Kentucky. However, nowhere in the Smart Grid Roadmap  
2 is there disclosure that all electric utilities in Kentucky were not included in the project.  
3 While the KSGRI may have brought together over 70 stakeholders in this project,  
4 noticeably absent from the stakeholder group is the Tennessee Valley Authority  
5 (“TVA”), the five distribution cooperatives supplied by TVA, and the 30 municipal-  
6 owned electric systems.<sup>9</sup> The five TVA-supplied distribution cooperatives provide  
7 service in all or parts of 23 of Kentucky’s 120 counties. Of the 15 largest cities in  
8 Kentucky, seven are served by municipal-owned electric systems. EKPC and its  
9 Members fully recognize that TVA, the TVA-supplied distribution cooperatives, and the  
10 municipal-owned electric systems are not subject to the jurisdiction of the Commission.  
11 At a minimum, the Smart Grid Roadmap should have disclosed these groups were not  
12 included in the project and qualified that all the recommendations were directed to the  
13 jurisdictional electric utilities. However, if the KSGRI contends that the  
14 recommendations in the Smart Grid Roadmap will ensure an integrated and  
15 comprehensive approach to Smart Grid deployments in Kentucky, this contention is  
16 seriously undermined by the exclusion of TVA, the TVA-supplied distribution  
17 cooperatives, and the municipal-owned electric systems.

18 **Q. Would you discuss the second concern EKPC and its Members have about the**  
19 **Smart Grid Roadmap?**

20 A. Yes. The second concern deals with the credibility and accuracy of information included  
21 in the Smart Grid Roadmap and the Smart Grids in Kentucky documents. This concern  
22 goes beyond the numerous typographical errors and missing words noticed in the Smart

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<sup>9</sup> The municipal-owned electric systems generally purchase their electricity needs from TVA, Kentucky Utilities Company (“KU”), or Kentucky Power Company (“Kentucky Power”). Two municipal-owned electric systems have their own generating assets.

1 Grid Roadmap. Our concern goes to several instances where there are factual errors or  
2 disagreements between the information contained in the Smart Grid Roadmap and the  
3 Smart Grids in Kentucky documents.

4 On page 10 of the Smart Grid Roadmap is the statement “The traditional electric grid has  
5 been in place since mid-19<sup>th</sup> century.” The traditional electric grid in the United States  
6 was not in place in the 1850s and 1860s.

7 On page 18 of the Smart Grid Roadmap, it is reported that the state average customer  
8 density was 9.8 customers per line mile for cooperatives and 22 customers per line mile  
9 for investor-owned utilities. However, on page 27 of the Smart Grids in Kentucky, the  
10 state average customer density was reported as 9.3 customers per line mile for  
11 cooperatives and 42.3 customers per line mile for investor-owned utilities. Yet both  
12 documents reported that the statewide average for all utilities was 11.1 customers per line  
13 mile.

14 On page 20 of the Smart Grid Roadmap is a summary of an exercise conducted with the  
15 non-utility stakeholders where they were asked to allocate \$100 million among various  
16 smart grid benefits or improvements in the electric power system. It was reported that the  
17 non-utility stakeholders would most like to see improvements regarding the  
18 environmental impact of the electric grid. The actual data from the exercise is included  
19 on pages 41, 42, and 67 of the Smart Grids in Kentucky document. Nine stakeholders  
20 provided responses on the environmentally friendly option. On page 42 of this report, it  
21 was noted that the standard deviation level indicated a low amount of agreement between  
22 the stakeholders. Page 67 shows the dollar allocations ranged from \$0 to \$75 million,  
23 with a standard deviation of \$24.75 million. In addition, based on the responses, only  
24 two stakeholders would spend more than \$25 million. There would appear to be a

1 disagreement between the interpretation of the data presented in the Smart Grids in  
2 Kentucky document and the summary in the Smart Grid Roadmap.

3 Concerning the non-utility stakeholders, while page 4 of the Smart Grid Roadmap  
4 identifies 20 stakeholders, the actual data from the stakeholder benefits assessment model  
5 shown on pages 63 through 67 of the Smart Grids in Kentucky document indicates that  
6 between nine and 11 stakeholders participated in the exercise. The responding  
7 stakeholders are not identified. Yet with all utility survey responses, the responding  
8 utilities were identified. It would have been beneficial in trying to understand the  
9 responses to the assessment model if the responding stakeholders had been identified as  
10 the utilities were in their survey responses.

11 On pages 34 through 36 of the Smart Grid Roadmap is a discussion of the state of  
12 distributed energy resources in Kentucky. The discussion is generally positive and does  
13 not acknowledge any possible drawbacks to distributed energy resources. However, on  
14 page 219 of the Smart Grids in Kentucky document is the following statement concerning  
15 distributed energy resources “This type of generation can help support local power grids  
16 in case of outages or blackouts, and ease the loads on long-distance transmission lines,  
17 but it can also destabilize the grid if not managed appropriately.” It is not clear why this  
18 statement was not included in the summary of distributed energy resources in the Smart  
19 Grid Roadmap.

20 On page 35 of the Smart Grid Roadmap there is a statement that KSGRI members  
21 recognized that the number of utility reported solar PV installations is artificially low, as  
22 many roof-top solar installations were not reported. EKPC and its Members note that the  
23 question posed to the utilities on this subject stated, “Indicate the size of your  
24 organizations DER capability (in nameplate kW) for the following categories of

1 renewable generation installed at the distribution system level (only).” The structure of  
2 the survey question implied distributed energy resources, such as solar installations,  
3 owned by the utility and not all solar installations the utility might have been aware of  
4 through the utility’s net metering program. It would appear the “failure” to report the  
5 solar installations was due to the poor wording of the survey question rather than an  
6 intentional under-reporting by the utilities.

7 On page 37 of the *Smart Grid Roadmap* the discussion of consumer education  
8 deployment highlights in Kentucky did not discuss consumer education but rather  
9 repeated the first paragraph of the deployment section for distributed energy resources.  
10 So there is no indication of what KSGRI determined about consumer education efforts in  
11 Kentucky.

12 A final credibility concern relates only to the *Smart Grids in Kentucky* document.  
13 Chapter 11 of that document provides an overview of consumer education and acceptance  
14 of the Smart Grid. The narrative on pages 201 through 203 provides a very general  
15 discussion of consumer education issues and on page 204 lists three general references  
16 for the material in the section. Upon closer review, it appears that the consumer  
17 education discussion in the *Smart Grids in Kentucky* document relies heavily on material  
18 from an August 27, 2010 Internet article posted by Anto Budiardjo, who is President and  
19 CEO of Clasma Events.<sup>10</sup> The Budiardjo article is one of the three general references  
20 listed on page 204. On page 202 there are four instances where statements were quoted  
21 verbatim from the Budiardjo article without an acknowledgement of the direct quote or  
22 specific footnote reference. The four statements are:

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<sup>10</sup> According to the August 27, 2010 article, Clasma Events is “a global event company specializing in conferences at the center of the worldwide energy discussion.”

1 Paragraph 1 – “Engagement and dialogue: Two-way communication with consumers  
2 will be critical to Smart Grid success.”

3 Paragraph 2 – “Industry-wide collaboration: The Smart Grid space is brimming with  
4 stakeholders who have the consumer’s best interests in mind.”

5 Paragraph 3 – “Long-term consumer engagement will depend on innovative products and  
6 solutions that consumers will race to embrace.”

7 Paragraph 4 – “Consumer acceptance and demand for Smart Grid technologies will  
8 ultimately ease the minds of regulators and consumer advocates when it comes to future  
9 Smart Grid investments, while making the transition smoother for utilities. If we do this  
10 right, I predict we’ll see a technology revolution.”

11 EKPC and its Members believe these credibility and accuracy problems undermine the  
12 reliance that can be placed on the Smart Grid Roadmap and the Smart Grids in Kentucky  
13 documents.

14 **Q. Would you discuss the third concern EKPC and its Members have about the Smart  
15 Grid Roadmap?**

16 A. Yes. On page 9 of the Smart Grid Roadmap is the statement that this document  
17 “provides recommendations and best practices to utilities and utility stakeholders to guide  
18 individual Smart Grid deployment approaches.” In several sections of the Smart Grid  
19 Roadmap, KSGRI cites one or two projects addressing individual infrastructure areas that  
20 utilities across the country have been undertaking that have shown potential benefits.  
21 However, EKPC and its Members do not believe KSGRI and the Smart Grid Roadmap  
22 have identified best practices to recommend in the report. A best practice is a technique  
23 or methodology that through experience and research has shown results superior to those  
24 achieved with other means. Simply because a single project has shown promising results

1 does not constitute it as a best practice for the utility industry. For a great deal of the  
2 areas that could be impacted by Smart Grid and Smart Meter deployment, it is simply too  
3 early for anyone to have identified best practices.

4 **Q. Would you discuss the fourth concern EKPC and its Members have about the**  
5 **Smart Grid Roadmap?**

6 A. Yes. Included in the Smart Grid Roadmap are recommendations that the following  
7 groups or organizations should be created:

- 8       ▪ The Kentucky Smart Grid Council (page 7);
- 9       ▪ The Kentucky Smart Grid Taskforce (page 43);
- 10      ▪ The Kentucky Smart Grid Clearinghouse, a website (page 46);
- 11      ▪ The Kentucky Smart Grid Research Center (page 47);
- 12      ▪ The Kentucky Smart Grid Integration and Test Lab (page 47); and
- 13      ▪ The Smart Grid Technical Advisory Project (page 47);

14 While KSGRI recommends the creation of these groups and organizations, it fails to  
15 adequately describe their purpose and function. It is implied in the Smart Grid Roadmap  
16 that one or more of these groups and organizations would have some approval authority  
17 over Smart Grid and Smart Meter deployment proposals, but the Smart Grid Roadmap  
18 fails to explain how that approval authority would be coordinated with the approval  
19 authority of the Commission. There is little or no discussion of how these groups and  
20 organizations would be staffed, who would have appointment authority, and what the  
21 scope of their jurisdictions would be. Most importantly there is no explanation of how  
22 these groups and organizations would be funded. Absent this information, it is difficult  
23 to give these recommendations any serious consideration.

1 It appears that an underlying assumption made by KSGRI in proposing these groups and  
2 organizations is that Smart Grid and Smart Meter deployment in Kentucky will be  
3 accomplished through a centralized, coordinated effort by the state. There is no evidence  
4 to support such an assumption.

5 **Q. Would you discuss the fifth concern EKPC and its Members have about the Smart**  
6 **Grid Roadmap?**

7 A. Yes. Throughout the Smart Grid Roadmap, KSGRI has made recommendations or  
8 comments that are not accompanied by supporting analyses, explanation, or  
9 documentation. These recommendations or comments include:

- 10 ▪ Pages 23 and 24 – KSGRI recommended that the deployment of AMI should  
11 utilize a WACS architecture using Internet Protocol based networks. The Smart  
12 Grid Roadmap does not include any analyses of the networks available for use  
13 with AMI deployment and why the Internet Protocol based network is considered  
14 the best. KSGRI also recommends that all AMI deployments be accompanied by  
15 an implementation plan that addresses how customers will be transitioned from  
16 existing flat rates to dynamic rates. KSGRI appears to make the assumption that  
17 the only reason to deploy AMI is so dynamic pricing options can be offered.  
18 There is no documentation offered to support such a position. Finally, in its  
19 recommendations concerning AMI the Smart Grid Roadmap fails to acknowledge  
20 that currently deployed AMI systems may not be utilizing an Internet Protocol  
21 based network and does not discuss how to reconcile this fact with its  
22 recommendation.
- 23 ▪ Pages 35 and 36 – Concerning distributed energy resources, KSGRI comments  
24 that the existence of low electricity rates and the use of net metering agreements

1 as opposed to feed-in tariffs create an economic climate that is unfavorable for  
2 distributed energy resource adoption by customers. No analysis was provided in  
3 the Smart Grid Roadmap to support this comment and no information contrasting  
4 net metering programs versus feed-in tariffs was submitted. KSGRI states its  
5 strong support of “the State Commission’s requirement that savings due to capital  
6 investment deferrals enabled via DERs be included in all evaluations of capacity  
7 increases in the generation fleet of Kentucky utilities.” No reference or citation to  
8 the applicable statute, regulation, or Commission Order was provided for this  
9 statement.<sup>11</sup> KSGRI recommends that state government support the adoption of  
10 distributed energy resources by utilities and utility customers and further  
11 recommends a taskforce be created to investigate the development of a statewide  
12 distributed energy resource customer incentive program. However, the Smart  
13 Grid Roadmap acknowledges that distributed energy resources are not currently  
14 cost-competitive. KSGRI and the Smart Grid Roadmap did not provide any  
15 explanations reconciling this recommendation with the emphasis in Kentucky for  
16 least cost generating resources. Lastly KSGRI recommended Kentucky evaluate  
17 the Storage Technology of Renewable and Green Energy Act of 2009 for possible  
18 models to use for evaluation purposes. The referenced legislation was not  
19 provided nor was a discussion of the legislation included as part of the Smart Grid  
20 Roadmap.

- 21 ■ Page 43 – KSGRI included with the recommendation of the creation of a  
22 Kentucky Smart Grid Taskforce the suggestion this group create Kentucky Smart

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<sup>11</sup> EKPC and its Members were not aware the Commission had established such a requirement. The lack of citation to the applicable statute, regulation, or Commission Order along with concerns over the credibility and accuracy of the Smart Grid Roadmap leads EKPC and its Members to wonder if this referenced requirement actually is from a state commission other than Kentucky.

1 Grid Metrics that would be used to objectively evaluate statewide deployment of  
2 Smart Grid and use the Metrics to perform an annual Kentucky Smart Grid  
3 Evaluation Study. Nowhere in the Smart Grid Roadmap is there a discussion of  
4 the Smart Grid Metrics or the annual Smart Grid Evaluation Study or an  
5 explanation of costs and benefits of either action.

6 ■ Pages 44 through 46 – The Smart Grid Roadmap includes four proposed  
7 deployment sequences for AMI, information technology change, demand  
8 response and distributed energy resources, and advanced distribution operations.  
9 No documentation, analyses, or explanations were included in the Smart Grid  
10 Roadmap to support or explain the development of the proposed deployment  
11 sequences.

12 ■ Page 47 – KSGRI recommended that the electric utilities collaborate on a  
13 statewide pilot project to thoroughly evaluate rate design and demand response in  
14 Kentucky. There was no explanation offered as to why KSGRI believes this “one  
15 size fits all” approach is reasonable or appropriate for Kentucky.

16 ■ Page 48 – The “Near Term” timeline includes a step to identify and hire a Smart  
17 Grid Consultant for the Kentucky AMI Pilot. There was no discussion or  
18 explanation in the Smart Grid Roadmap concerning the hiring of a consultant for  
19 any pilot program.

20 EKPC and its Members are not able to evaluate the reasonableness of many of the  
21 comments and recommendations included in the Smart Grid Roadmap because of the  
22 lack of supporting analyses, explanations, or documentation. Given the developmental  
23 stage that characterizes Smart Grid and Smart Meter technologies currently, it is  
24 necessary that comments and recommendations offered by any entity as the appropriate

1 way to accomplish Smart Grid and Smart Meter deployments must be adequately  
2 supported.

3 **Q. Would you discuss the last concern EKPC and its Members have about the Smart**  
4 **Grid Roadmap?**

5 A. Yes. Throughout the Smart Grid Roadmap is the acknowledgement that consumer  
6 education is critical for the success of Smart Grid and especially Smart Meter  
7 applications. However, there is also the apparent assumption that if the appropriate  
8 information and education materials are provided, customers will see the benefits of  
9 Smart Grid and Smart Meter deployments and readily embrace them.

10 EKPC and its Members do not believe this assumption is entirely reasonable. The Smart  
11 Grid Roadmap ignores the possibility and the reality that groups of customers have and  
12 are resisting these deployments and insisting on “opt-out” provisions in the programs. A  
13 December 2012 Federal Energy Regulatory Commission (“FERC”) staff report noted that  
14 many consumer groups across the United States have endorsed the opportunity for  
15 individual customers to opt-out of AMI installations. The option to opt-out can impact  
16 the cost benefit analysis for AMI deployments and raises cost recovery questions when  
17 older analog meters are maintained on the utility system. The ability for individual  
18 customers to opt-out has been handled in a variety of ways by the state regulatory  
19 commissions. The FERC staff report does note that participation in opt-out programs has  
20 been low, but the existence of opt-out provisions support an individual’s ability to make a  
21 choice.<sup>12</sup> According to the non-electronic case file record for this proceeding on the  
22 Commission’s website approximately half a dozen customers have filed comments  
23 opposing Smart Meter installations at their premises.

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<sup>12</sup> See FERC Staff Report “2012 Assessment of Demand Response and Advanced Metering” December 2012, pages 17 through 19.

1 EKPC and its Members do agree that consumer education is critical for the success of  
2 Smart Grid and Smart Meter deployments. However, we believe the Smart Grid  
3 Roadmap failed to provide a complete picture of the consumer education issue by not  
4 acknowledging and addressing the issue of opt-out proposals related to Smart Meter  
5 deployments.

6 **Q. Do EKPC and its Members have any final observations concerning the Smart Grid**  
7 **Roadmap?**

8 A. Yes. EKPC and its Members respectfully submit that the Smart Grid Roadmap cannot be  
9 considered as a reasonable “master plan” for the deployment of Smart Grid and Smart  
10 Meter technologies in Kentucky. The Smart Grid Roadmap appears to operate from the  
11 assumption that deployment in Kentucky will be accomplished through a centralized,  
12 coordinated statewide organization. However, the Smart Grid Roadmap fails to  
13 acknowledge or address the fact that TVA, TVA-supplied distribution cooperatives, and  
14 municipal-owned electric systems were not included in the KSGRI surveys and analyses.  
15 The credibility and accuracy problems noted in the Smart Grid Roadmap and the  
16 accompanying Smart Grids in Kentucky document make it difficult to place much  
17 reliance on the recommendations contained in the Smart Grid Roadmap. The Smart Grid  
18 Roadmap proposes the creation of several additional groups and organizations that would  
19 be involved in some fashion with the approval of Smart Grid and Smart Meter  
20 deployments, yet the specific role, purpose, staffing, and funding of these groups and  
21 organizations is not clearly defined. Finally, while the Smart Grid Roadmap  
22 acknowledges the importance of consumer education relating to the successful  
23 deployment of Smart Grid and Smart Meter technologies, it fails to recognize or

1 acknowledge that some consumer groups have already insisted on opt-out options being  
2 available.

3 **Dynamic Pricing**

4 **Q. How do EKPC and its Members define “dynamic pricing”?**

5 A. EKPC and its Members believe a good general definition of “dynamic pricing” can be  
6 found in the March 25, 2011 Report of the Joint Parties. In Appendix B of that report  
7 states:

8 Dynamic pricing refers to pricing that varies according to the time at  
9 which the energy is used. It is normally tied directly or indirectly to prices  
10 in the wholesale market or to system conditions (peaks) and normally is  
11 delivered to the customer via time-based rates or tariffs. Types include  
12 Time-of-Use or Time-of-Day Pricing, Critical Peak Pricing and Real-Time  
13 Pricing.

14  
15 **Q. Do EKPC and its Members have any tariffs that would be classified as dynamic  
16 pricing?**

17 A. Yes. EKPC has a simple time-of-use structure in its Section E tariff where energy is  
18 priced as on-peak or off-peak. This tariff has been in operation since the early 1990s.  
19 EKPC’s Section A, B, C, D, E, and G tariffs also recognize the on-peak and off-peak  
20 time periods when determining the system peak demand used for billing demand  
21 purposes. The Members’ tariffs also reflect this on-peak and off-peak distinction.  
22 Several of the Members have established additional voluntary tariffs that reflect other  
23 time-of-use or time-of-day pricing options. EKPC and four of its Members have a Real-  
24 Time Pricing pilot program tariff; however, the pilot program ended as of December 31,  
25 2012. EKPC will be filing its final report on the pilot with a recommendation concerning  
26 the Real-Time Pricing program at the end of the first quarter this year.

1 **Q. Do EKPC and its Members have any recommendations concerning the availability**  
2 **or offering of dynamic pricing options?**

3 A. Yes. EKPC and its Members believe that dynamic pricing options like time-of-use  
4 pricing, critical peak pricing, and real-time pricing may provide benefits to certain  
5 customer groups and these options should be offered to customers on a voluntary basis.  
6 EKPC and its Members believe that each utility should determine what, if any, dynamic  
7 pricing options are offered to customers.

8 EKPC and its Members suggest that the Commission should not require that all  
9 jurisdictional utilities offer the same dynamic pricing options statewide in order to  
10 determine if there is customer interest in an option. We believe there may be other  
11 approaches available to determine interest, such as surveys or discussions with customer  
12 groups. In its December 21, 2006 Order in Administrative Case No. 2006-00045, the  
13 Commission found that some large commercial and industrial customers may benefit  
14 from real-time pricing tariffs, but acknowledged that the potential of commercial and  
15 industrial real-time pricing programs had not been adequately investigated. To address  
16 this situation, the Commission required Kentucky Power, KU, Louisville Gas and  
17 Electric Company (“LG&E”), Big Rivers Electric Corporation (“Big Rivers”), and EKPC  
18 to develop voluntary Real-Time Pricing pilot programs for large commercial and  
19 industrial customers that would operate for an initial term of three years.<sup>13</sup> Since the  
20 establishment of the pilot programs, Kentucky Power did not experience any customer  
21 interest in its program during the first four years. KU and LG&E experienced no  
22 customer interest in their respective programs and in December 2012 the Commission  
23 approved KU’s and LG&E’s request to discontinue the program and withdraw the

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<sup>13</sup> Duke Energy Kentucky was already offering a Real-Time Pricing program to its customers.

1 applicable tariffs. EKPC has had no participants in its Real-Time Pricing pilot program  
2 and it is our understanding that Big Rivers has no customers utilizing the Real-Time  
3 Pricing option.

4 Finally, EKPC and its Members believe that allowing utilities to propose pilot programs  
5 offering dynamic pricing options are the best way to determine customer interest and to  
6 educate customers about the benefits of such programs. Customers should not be forced  
7 into dynamic pricing options.

8 **Q. Does this conclude your testimony?**

9 A. Yes it does.

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

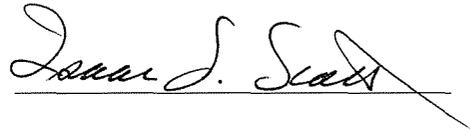
In re the Matter of:

CONSIDERATION OF THE IMPLEMENTATION	)	
OF SMART GRID AND SMART METER	)	CASE NO.
TECHNOLOGIES	)	2012-00428

AFFIDAVIT

STATE OF KENTUCKY    )  
  )  
COUNTY OF CLARK    )

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



Subscribed and sworn before me on this 25<sup>th</sup> day of January, 2013.

  
Notary Public

MY COMMISSION EXPIRES NOVEMBER 30, 2013  
NOTARY ID #409352