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COMMISSION

Commonwealth of Kentucky

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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

ATTORNEY GENERAL'S INITIAL REQUESTS FOR INFORMATION TO THE
COMPANIES

The Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention, submits his Initial Requests for Information to the Companies.

(1) In each case where a request seeks data provided in response to a staff request, reference to the appropriate request item will be deemed a satisfactory response.

(2) Please identify the witness who will be prepared to answer questions concerning each request.

(3) Please repeat the question to which each response is intended to refer. The Office of the Attorney General can provide counsel for the Companies with an electronic version of these questions, upon request.

(4) These requests shall be deemed continuing so as to require further and supplemental responses if the company receives or generates additional information

within the scope of these requests between the time of the response and the time of any hearing conducted hereon.

(5) Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association, be accompanied by a signed certification of the preparer or person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

(6) If you believe any request appears confusing, please request clarification directly from Counsel for the Office of Attorney General.

(7) To the extent that the specific document, workpaper or information as requested does not exist, but a similar document, workpaper or information does exist, provide the similar document, workpaper, or information.

(8) To the extent that any request may be answered by way of a computer printout, please identify each variable contained in the printout which would not be self evident to a person not familiar with the printout.

(9) If the company has objections to any request on the grounds that the requested information is proprietary in nature, or for any other reason, please notify the Office of the Attorney General as soon as possible.

(10) As used herein, the words "document" or "documents" are to be construed broadly and shall mean the original of the same (and all non-identical copies or drafts thereof) and if the original is not available, the best copy available. These terms shall include all information recorded in any written, graphic or other tangible form

and shall include, without limiting the generality of the foregoing, all reports; memoranda; books or notebooks; written or recorded statements, interviews, affidavits and depositions; all letters or correspondence; telegrams, cables and telex messages; contracts, leases, insurance policies or other agreements; warnings and caution/hazard notices or labels; mechanical and electronic recordings and all information so stored, or transcripts of such recordings; calendars, appointment books, schedules, agendas and diary entries; notes or memoranda of conversations (telephonic or otherwise), meetings or conferences; legal pleadings and transcripts of legal proceedings; maps, models, charts, diagrams, graphs and other demonstrative materials; financial statements, annual reports, balance sheets and other accounting records; quotations or offers; bulletins, newsletters, pamphlets, brochures and all other similar publications; summaries or compilations of data; deeds, titles, or other instruments of ownership; blueprints and specifications; manuals, guidelines, regulations, procedures, policies and instructional materials of any type; photographs or pictures, film, microfilm and microfiche; videotapes; articles; announcements and notices of any type; surveys, studies, evaluations, tests and all research and development (R&D) materials; newspaper clippings and press releases; time cards, employee schedules or rosters, and other payroll records; cancelled checks, invoices, bills and receipts; and writings of any kind and all other tangible things upon which any handwriting, typing, printing, drawings, representations, graphic matter, magnetic or electrical impulses, or other forms of communication are recorded or produced, including audio and video recordings, computer stored information (whether or not in printout form), computer-

readable media or other electronically maintained or transmitted information, and all other rough drafts, revised drafts (including all handwritten notes or other marks on the same) and copies of documents as hereinbefore defined by whatever means made.

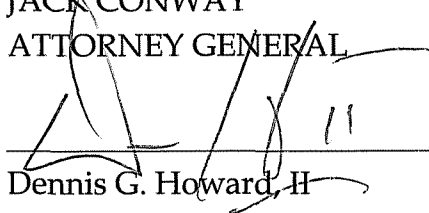
(11) For any document withheld on the basis of privilege, state the following: date; author; addressee; indicated or blind copies; all persons to whom distributed, shown, or explained; and, the nature and legal basis for the privilege asserted.

(12) In the event any document called for has been destroyed or transferred beyond the control of the company, please state: the identity of the person by whom it was destroyed or transferred, and the person authorizing the destruction or transfer; the time, place, and method of destruction or transfer; and, the reason(s) for its destruction or transfer. If destroyed or disposed of by operation of a retention policy, state the retention policy.

(13) Please provide written responses, together with any and all exhibits pertaining thereto, in one or more bound volumes, separately indexed and tabbed by each response, in compliance with Kentucky Public Service Commission Regulations.

Respectfully submitted,

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Certificate of Service and Filing

Counsel certifies that an original and ten photocopies of the foregoing were served and filed by hand delivery to Jeff Derouen, Executive Director, Public Service Commission, 211 Sower Boulevard, Frankfort, Kentucky 40601; counsel further states that true and accurate copies of the foregoing were mailed via First Class U.S. Mail, postage pre-paid, to:

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this ^{7th} 4 day of February 2013.

A handwritten signature in black ink, appearing to be "J. L. U.", is written over a horizontal line. The signature is stylized and somewhat cursive.

Assistant Attorney General

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

1. Since the Commission initiated Consideration of *the New Federal Standards of the Energy Independence and Security Act of 2007*, Administrative Case No. 2008-00408, has the company changed its position regarding Smart Grid? If so, how?
2. Are the technologies pertaining to the implementation of Smart Grid definitely known and proven?
 - a. If yes, explain in detail every aspect from the use of each technology from the company to the end-user.
 - b. If not, explain in detail what technologies are already advancing/improving as well as those that are envisioned on the immediate time horizon.
3. In light of recent catastrophic storms over the past ten years (for example, the various ice storms, tornadoes, and strong winds), which electric companies have experienced, and for which the company may ultimately have sought regulatory assets, can the company affirmatively state that its basic infrastructure, including all of its generation, transmission and distribution facilities, have proven to be reliable 24 hours a day, seven days a week, 365 days a week? If not, for each and every storm that it affected the utility in excess of two days, please provide the following:
 - a. The number of days before the company's last ratepayer's electricity was restored for each storm.
 - b. The average number of days, or hours if applicable, that the average ratepayer's outage lasted for each storm.
 - c. The average financial loss for the average ratepayer for each storm, if known.
4. Does the company agree with the Attorney General that electricity is not considered a luxury service but a necessary commodity of modern life? If not, why not?
5. Does the company agree that the fundamental reliability of its electric grid - i.e., the delivery of electricity to the end-user 24/7/365 - is paramount to the end-user's ability to monitor and/ or conserve his/her demand or electricity consumption? If not, why not?

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

6. Please state whether the company is aware of any cybersecurity breaches effecting the electric and gas industries that have either occurred in the United States or internationally. If the answer is in the affirmative, please explain the details of the breaches without exposing information that is not already in the public domain.

7. Please confirm that the company is aware that the prior United States Secretary of Defense Leon Panetta, in speaking on the vulnerability of the nation's electric grid with the consequential safety and security concerns that ensue, warned the Senate Appropriations Committee on Defense that the risk to the United States could even be considered the equivalent of a "digital Pearl Harbor¹.

a. Is this concern of the vulnerability of the nation's electric grid shared by the company? If not, why not?

8. With regard to cybersecurity in general, can the company unequivocally confirm that its system reliability is not vulnerable to a cybersecurity attack? If not, what could be the consequences? Please explain in detail as much as possible for the following:

a. the company, and

b. the company's ratepayers.

9. Please provide the names of the standards, protocols or policies which the company observes and/or implements in its maintaining its system reliability from cybersecurity threats.

10. Please provide copies of the standards, protocols or policies which the company observes and/or implements in its maintaining its system reliability from cybersecurity threats.

¹ Comments by Secretary of Defense, Leon Panetta, U.S. Senate Appropriations Subcommittee on Defense, Hearing on FY 13 DoD Budget, June 13, 2012.
<http://www.appropriations.senate.gov/webcasts.cfm?method=webcasts.view&id=08e51d6c-4a32-4fa4-b09c-a006fa63c976>

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

11. With regard to cybersecurity in general, can the company unequivocally confirm that its ratepayers' privacy of data cannot be compromised or otherwise divulged to any individual or entity not associated with the company, or a qualified third-party which has issues a non-disclosure statement or the ratepayers? If not, what could be the consequences? Please explain in detail as much as possible for the following:

- a. the company, and
- b. the company's ratepayers.

12. If a qualified third-party that has agreed to a non-disclosure statement and obtains ratepayers' private information, what guarantees exist that the information will not be disclosed, whether intentionally or unintentionally?

13. Please provide the names of the standards, protocols or policies which the company observes and/or implements in its maintaining its ratepayers' privacy data from cybersecurity threats.

14. Please provide copies of the standards, protocols or policies which the company observes and/or implements in its maintaining its ratepayers' privacy data from cybersecurity threats.

15. Given the vulnerability of the electric grid to cyberattacks, describe what analog (non-digital) means the company will have in place to insure reliability, including but not limited to the maintenance of legacy systems.

16. What are the company's estimated costs to invest in order to fully implement Smart Grid?

- a. Do any cost estimates include results of any modeling that may show the degree of exposure to the following risks: (a) hacking; (b) electronic magnetic pulses (EMPs, whether related to solar flares or otherwise); and/or (c) weather events? If so, provide a list of the modeling software used to produce any estimates, the scenarios and sensitivities examined, and any and all such results.

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

17. Please explain in detail what benefits, if any, the company expects its ratepayers to realize because of Smart Grid?
 - a. Does the company believe that societal benefits are to be considered in evaluating benefits? If so, detail those societal benefits and how they may be used in evaluations? If not, why not?
18. Would the company agree to strict limits and/or caps on ratepayer costs? If not, why not?
19. Would the company agree to allow ratepayers to opt-out of smart meter deployment? If not, why not?
20. Can the company quantify measureable and significant benefits that the ratepayers will realize, including a monetary quantification of net savings (if any) to ratepayers?
21. Please explain in detail what detriments, if any, the company expects its ratepayers to realize because of Smart Grid? Include in the explanation both new costs as well as stranded costs.
22. What are the company's estimated costs which the company expects the ratepayers to realize?
23. What are the company's estimated costs which the company expects its shareholders, if any, to realize? Include in the explanation both new costs as well as stranded costs.
24. Does the company agree that its costs to invest and implement Smart Grid will be different than other utility companies? If not, why not?
25. Does the company agree that its ratepayers' benefits, whether financial or otherwise, may differ from one utility to another upon implementation of any Smart Grid technology? If not, why not?
26. Can the company guarantee that the deployment of Smart Grid will not interfere with the regulatory compact whereby the ratepayers will receive safe, adequate and reliable service at fair, just and reasonable costs? If not, why not? Explain in detail.

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

27. Answer the above question with the definition of "fair, just and reasonable costs" as being economically feasible for the end-user.
- a. Provide any cost-benefit analysis that the company has run or will run to make the determination of economically feasible to the end-user.
28. Regarding time of use (TOU) rates, can the company confirm that low-income ratepayers will not be disproportionately affected more than non-low-income customers? If not, why not? (Provide in the answers in any studies, reports, analyses and relevant data.)
29. With regard to TOU rates, does the company have any history with any such programs? If so, explain in detail with particular facts as to:
- a. the number of customers who participated;
 - b. whether they remained on the program;
 - c. whether they saved money on their bills; and
 - d. whether the customers ultimately reduced their usage.
30. What proposals will the company present to deal with technological impediments to the broad use of Smart Grid, including but not limited to the following:
- a. low and fixed-income individuals who do not have Internet resources at their home;
 - b. multiple forms of telecommunications technology used to access information (i.e., analog, cellular, VOIP); and
 - c. multiple and proprietary technology and software options in the market that may lead to issues of compatibility?

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

31. Assume: Full deployment of Smart Grid at the residential ratepayer level consisting of a household with only Energy Star appliances, an HVAC system with at least a 15 SEERS rating, etc. and any smart grid apparatuses/equipment for interconnectivity with the electricity provider (including generation, transmission and distribution).

- a. Does the company agree that if full deployment of the magnitude described in the above question occurs, the average residential ratepayer could experience a significant capital outlay?
- b. If so, what are the projected costs?
- c. If no costs are anticipated by the electric provider, why not?

32. In regard to appliances, such as refrigerators or lighting, does the company agree that in the long run, it is cheaper for the end-user himself/herself to make that capital outlay for the purchase of the appliance or lighting than have the company provide the appliance(s) and build the costs into the company's ratebase which would then include a profit component for the company on an-going basis?

33. Confirm that the Smart Grid depends, at least in part, if not exclusively, on telephony (whether landline, fiber optic, wireless or VOIP) at the end-user level for the end-user to participate in his/her altering his/her electricity usage patterns or behavior.

34. If the answer to the above question is in the affirmative, confirm that limited access or even complete absence of access to telephony will interfere with, if not prevent, the deployment of the Smart Grid at the end-user level.

35. If the company intends to install infrastructure / software allowing for the transmission of Smart Grid / Smart Meter data over its distribution / transmission conductors and networks, provide estimates, or actual numbers, for the costs of doing so.

36. Is there a standard communications' protocol that the company will deploy in its Smart Grid that will be interoperable regardless of the communications provider?

- a. If not, explain how the company plans on addressing any problems that might arise.

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

37. If improved reliability is the goal of Smart Grid / Smart Meter, would it not be more cost-effective to invest in infrastructure hardening (for example, utilizing protocols and standards developed and implemented by many utilities in hurricane-prone regions)?
38. Describe the company's plans to avoid obsolescence of Smart Grid / Smart Meter infrastructure (both hardware and software) and any resulting stranded costs. (This question and the subparts should be construed to relate to both the Smart Grid Investment Standard as well as the Smart Grid Information Standard.)
- a. Describe who would pay for stranded costs resulting from obsolescence.
 - b. With regard to the recovery of any obsolete investment, explain the financial accounting that should be used (as in account entry, consideration of depreciation, time period involved, etc.).
39. With regard to interoperability standards, does the company agree that Smart Grid equipment and technologies as they currently exist, and are certain to evolve in the future, are not a one size fits all approach to the Commonwealth?
40. Is dynamic pricing strictly defined as TOU?
- a. If not, explain why not.
 - b. Is the company requesting that dynamic pricing be voluntary or involuntary, if at all?
41. Please explain in detail whether the company has any dynamic programs in place in Kentucky.
- a. For each program, provide the number of participants.
 - b. For each program, state whether those participants on aggregate have saved costs on their bills.
 - c. For each program, state whether those participants on aggregate have saved costs on their bills.
 - d. For each program, state whether each participant has saved costs on his/her/its bills. (The question is not intended to request any private identifier information.)

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

42. Does the company recommend the Commission to formally adopt the EISA 2007 Smart Grid Investment Standard? If not, why not?
43. Does the company recommend the Commission to formally adopt the EISA 2007 Smart Grid Information Standard? If not, why not?
44. Does the company recommend issuing an IRP Standard?
- a. If so, what concerns does the company have with a standard, including "priority resource," especially as it relates to cost-effectiveness?
 - b. What concerns would the company have with a standard as it affects CPCN and rate applications?
45. Does the company agree that any investment in grid modernization infrastructure should be done before deploying TOU rates or dynamic pricing? If not, why not?
46. Regarding the Kentucky Smart Grid Roadmap Initiative (KSGRI), does the company believe that it provides the fundamental basis for the Commonwealth as a **whole** to proceed with Smart Grid given its lack of incorporating all electric utilities such as municipalities and the TVA, along with its distribution companies? If yes, please explain why. If not, please explain why not.
47. Does the company believe that the Commonwealth's electric industry is, or will become, so interconnected that all electric entities in any way involved or associated with the generation, transmission and / or distribution of electricity should be included and participate to some degree with Smart Grid if it is to come to fruition? If yes, please explain why. If not, please explain why not.
48. Does the company believe that any Smart Grid Investment will trigger a CPCN case? If not, why not?
49. Does the company believe that Dynamic Pricing should be economically feasible for the end-user and be supported by a cost- benefit analysis?
50. If additional education is contemplated with the deployment of the Smart Grid, please explain in detail if known or contemplated.