

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

DECEMBER 11
MAR 20 2013
OFFICE OF RATE DEVELOPMENT
PUBLIC SERVICE COMMISSION

In re the Matter of:

CONSIDERATION OF THE IMPLEMENTATION)
OF SMART GRID AND SMART METER)
TECHNOLOGIES)

CASE NO.
2012-00428

RECEIVED
MAR 20 2013
PUBLIC SERVICE
COMMISSION

RESPONSES TO ATTORNEY GENERAL'S
INITIAL DATA REQUESTS TO THE COMPANIES
DATED FEBRUARY 27, 2013

OATH

Commonwealth of Kentucky)
) ss:
County of Barren)

TONY WELLS makes oath and says

(Name of Officer)

that he/she is VICE PRESIDENT OF TECHNICAL SERVICES of

FARMERS RURAL ELECTRIC COOPERATIVE CORPORATION

(Exact legal titel or name of respondent)

I, Tony Wells, makes oath and says that he is Vice President of Technical Services of Farmers Rural Electric Cooperative Corporation ("Farmers RECC"); that I have carefully examined the foregoing Smart Grid data request and to the best of my knowledge and belief the statements contained in this report are true, and is a correct and complete statement of the business and affairs of Farmers RECC in every respect.

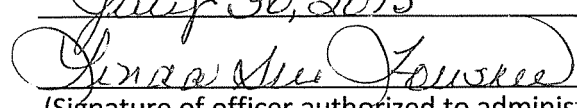


(Signature of officer)

Subscribed and sworn to before me, a Notary Public in and for the State and County named in the above this 19th day of March, 2013.

Apply seal here

My commission expires

July 30, 2015


(Signature of officer authorized to administer oath)
Notary ID # 446566

Request 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?

Answer 1. Farmers RECC references the response to AG Request #1 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 2. Are the technologies pertaining to the implementation of Smart Grid definitely known and proven?

Answer 2. We do not have enough information.

Witness Responsible.Tony Wells

a. If yes, explain in detail every aspect from the use of each technology from the company to the end-user.

Answer 2.a. N/A

Witness Responsible.Tony Wells

b. If not, explain in detail what technologies are already advancing/improving as well as those that are envisioned on the immediate time horizon.

Answer 2.b. N/A

Witness Responsible.Tony Wells

Request 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:

Answer 3. Farmers RECC has not requested recovery of any regulatory asset costs due to catastrophic storms. Although always striving to improve, Farmers RECC believes it's members are receiving reliable service.

Witness Responsible. Tony Wells

a. The number of days before the company's last ratepayer's electricity was restored for each storm.

Answer 3.a. N/a

Witness Responsible. Tony Wells

b. The average number of days, or hours if applicable, that the average ratepayer's outage lasted for each storm.

Answer 3.b. N/a

Witness Responsible. Tony Wells

c. The average financial loss for the average ratepayer for each storm, if known.

Answer 3.c. N/a

Witness Responsible. Tony Wells

Request 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?

Answer 4. Farmers RECC believes that electricity is a necessary service that supports the modern lifestyle.

Witness Responsible. Tony Wells

Request 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?

Answer 5. Farmers RECC references the response to AG Request #5 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.

Answer 6. We are aware of no information on this.

Witness Responsible.Tony Wells

Request 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 Harbor".

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

Answer 7.a. Farmers RECC takes the security concerns of its system and members very seriously.

Witness Responsible.Tony Wells

Request 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:

Answer 8. An Entity that can unequivocally confirm the security of its data may become complacent. Farmers RECC believes that reasonable precautions have been taken, but continued attention is required to maintain secure data.

Witness Responsible.Tony Wells

a. the company, and

Answer 8.a. Cyber attacks could result in the compromising of company data.

Witness Responsible. Tony Wells

b. the company's ratepayers.

Answer 8.b. A successful cyber attack could result in the compromising of customer data. Additionally, costs to restore systems negatively affected by a cyber attack would ultimately be borne by our member-owners.

Witness Responsible. Tony Wells

Request 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.

Answer 9. Cybersecurity is best characterized as a lifecycle: protect/prevent, detect, respond, recover. The steps in the lifecycle are addressed as follows:
Protect - Perimeter Firewall, Security Baseline, Antivirus, stateless virtual environment, patch management
Detect - Antivirus, URL Filtering, Application/Network Firewall
Respond - System/Network Performance Monitoring, Configuration Management
Recover - Data Recovery (virtual environment, tape backup of CIS system / periodic backup of CIS DB stored in disparate geographic location)

Recognizing the aforementioned elements of cybersecurity, we have taken appropriate action to address these issues, incorporating available technology. Work continues in this area as new applications are implemented and new threats become known or are anticipated.

Witness Responsible. Tony Wells

Request 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.

Answer 10. Security concerns prohibit the listing of standards, protocols, and policies.

Witness Responsible. Tony Wells

Request 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:

Answer 11. See answer to Request #8

Witness Responsible. Tony Wells

a. the company, and

Answer 11.a. See answer to Request #8 subpart a

Witness Responsible. Tony Wells

b the company's ratepayers.

Answer 11.b. See answer to Request #8 subpart b

Witness Responsible. Tony Wells

Request 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?

Answer 12. No guarantees can exist outside those that are legally required and agreed to within the non-disclosure agreement between the utility and

other party. Due diligence must be done by both parties to ensure that data will not ultimately be used for unintended purposes.

Witness Responsible.Tony Wells

Request 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.

Answer 13. See answer to Request #10

Witness Responsible.Tony Wells

Request 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.

Answer 14. See answer to Request #11

Witness Responsible.Tony Wells

Request 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.

Answer 15. Distribution system can be operated in a totally analog mode.

Witness Responsible.Tony Wells

Request 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.

Answer 16.a. Farmers RECC references the response to AG Request #16 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible. Tony Wells

Request 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?

Answer 17.a. Farmers RECC references the response to AG Request #17 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible. Tony Wells

Request 18 Would the company agree to strict limits and/or caps on ratepayer costs? If not, why not?

Answer 18. Farmers RECC references the response to AG Request #18 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible. Tony Wells

Request 19. Would the company agree to allow ratepayers to opt-out of smart meter deployment? If not, why not?

Answer 19. Opting out should not be allowed. It is to the advantage to all customers that all locations are AMI equipped in both terms of cost and reliable service. Outage analysis, equipment loading and system load flow analysis are enhanced with the data provided by these AMI systems. The reasons that are commonly given by customers for wanting to opt out are based on reasons that have no real merit – i.e. health concerns of radio frequency type meters, surveillance by the utility, trespassing, etc. Utilities and their rate payers should not be required to bear the costs of

responding to myths propagated on the Internet.

Witness Responsible.Tony Wells

Request 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?

Answer 20. Farmers RECC references the response to AG Request #20 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.

Answer 21. Farmers RECC references the response to AG Request #21 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 22. What are the company's estimated costs which the company expects the ratepayers to realize?

Answer 22. Farmers RECC references the response to AG Request #22 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.

Answer 23. Farmers RECC references the response to AG Request #23 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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?

Answer 24. Farmers RECC references the response to AG Request #24 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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?

Answer 25. Farmers RECC references the response to AG Request #25 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.

Answer 26. Farmers RECC references the response to AG Request #26 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.

Answer 27.a. Farmers RECC references the response to AG Request #27 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.)

Answer 28. Farmers RECC has several TOU rates, but no data available that would allow us to determine an answer to this question.

Witness Responsible.Tony Wells

Request 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;

Answer 29.a. We have 246 residential members on our electric thermal storage off-peak rate. We have five commercial members on our TOU rates.

Witness Responsible.Tony Wells

b. whether they remained on the program;

Answer 29.b. There has been consistent participation on these rates.

Witness Responsible.Tony Wells

c. whether they saved money on their bills; and

Answer 29.c. Yes, most participating on these rates have probably saved money.

Witness Responsible.Tony Wells

d. whether the customers ultimately reduced their usage.

Answer 29.d. We have no evidence of usage reduction. The time of day when their use has occurred has changed.

Witness Responsible.Tony Wells

Request 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;

Answer 30.a. Members who choose not to have Internet access in their home has not been exclusively limited to low or fixed income individuals. As such, Farmers makes allowances for this and ensures that all programs it implements, which may incorporate Internet access, take this into account and provides alternate means and methods for participation by all members.

Witness Responsible. Tony Wells

- b. multiple forms of telecommunications technology used to access information (i.e., analog, cellular, VOIP); and

Answer 30.b. See answer to Request #30 subpart a.

Witness Responsible. Tony Wells

- c. multiple and proprietary technology and software options in the market that may lead to issues of compatibility?

Answer 30.c. See answer to Request #30 subpart a.

Witness Responsible. Tony Wells

Request 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).

Answer 31. Farmers RECC references the response to AG Request #31 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

- 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?

Request 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 on-going basis?

Answer 32. Farmers RECC references the response to AG Request #32 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.

Answer 33. No installed systems require telephony at the end-user level. Aggregated data is sent from the substation to the office via telephony but there are no requirements on a per member basis.

Witness Responsible.Tony Wells

Request 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.

Answer 34. N/A

Witness Responsible.Tony Wells

Request 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.

Answer 35. AMI was implemented at FARMERS RECC in 2006. At this point in time, we have no further Smart Grid/Meter projects planned at this time.

Witness Responsible.Tony Wells

Request 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?

Answer 36. No.

Witness Responsible.Tony Wells

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

Answer 36.a. No projects are currently planned.

Witness Responsible.Tony Wells

Request 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)?

Answer 37. Farmers RECC references the response to AG Request #37 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.)

Answer 38. Farmers RECC references the response to AG Request #38 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

- 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.).

Request 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?

Answer 39. Farmers RECC references the response to AG Request #39 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 40. Is dynamic pricing strictly defined as TOU?

Answer 40. Farmers RECC references the response to AG Request #40 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

- a. If not, explain why not.
- b. Is the company requesting that dynamic pricing be voluntary or involuntary, if at all?

Request 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.

Answer 41.a. We have 246 residential members on our electric thermal storage off-peak rate. We have five commercial members on our TOU rates.

Witness Responsible.Tony Wells

b. For each program, state whether those participants on aggregate have saved costs on their bills.

Answer 41.b. Yes, they have saved money on their bills.

Witness Responsible.Tony Wells

c. For each program, state whether those participants on aggregate have saved costs on their bills.

Answer 41.c. Yes, they have saved money on their bills.

Witness Responsible.Tony Wells

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.)

Answer 41.d. Yes, they have saved money.

Witness Responsible.Tony Wells

Request 42. Does the company recommend the Commission to formally adopt the EISA 2007 Smart Grid Investment Standard? If not, why not?

Answer 42. Farmers RECC references the response to AG Request #42 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 43. Does the company recommend the Commission to formally adopt the EISA 2007 Smart Grid Information Standard? If not, why not?

Answer 43. Farmers RECC references the response to AG Request #43 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 44. Does the company recommend issuing an IRP Standard?

Answer 44. Farmers RECC references the response to AG Request #44 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

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?

Request 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?

Answer 45. Farmers RECC references the response to AG Request #45 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.

Answer 46. Farmers RECC references the response to AG Request #46 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 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.

Answer 47. Farmers RECC references the response to AG Request #47 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 48. Does the company believe that any Smart Grid Investment will trigger a CPCN case? If not, why not?

Answer 48. Farmers RECC references the response to AG Request #48 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 49. Does the company believe that Dynamic Pricing should be economically feasible for the end-user and be supported by a cost-benefit analysis?

Answer 49. Farmers RECC references the response to AG Request #49 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells

Request 50. If additional education is contemplated with the deployment of the Smart Grid, please explain in detail if known or contemplated.

Answer 50. Farmers RECC references the response to AG Request #50 submitted to this request by EKPC, and adopts that response as its own.

Witness Responsible.Tony Wells