

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

In the Matter of:

APPLICATION OF DUKE ENERGY KENTUCKY,)
INC. FOR (1) A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY)
AUTHORIZING THE CONSTRUCTION OF AN) CASE NO.
ADVANCED METERING INFRASTRUCTURE; (2)) 2016-00152
REQUEST FOR ACCOUNTING TREATMENT;)
AND (3) ALL OTHER NECESSARY WAIVERS,)
APPROVALS, AND RELIEF)

**ATTORNEY GENERAL'S SUPPLEMENTAL DATA REQUESTS
PUBLIC REDACTED VERSION**

Comes now the intervenor, the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention, and submits these Supplemental Data Requests to Duke Energy Kentucky, Inc. [hereinafter "DEK"] to be answered by the date specified in the Commission's Order of Procedure, and in accord with the following:

- (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 DEK 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 regardless of the media or format in which they are stored, 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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ATTORNEY GENERAL



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Certificate of Service and Filing

Counsel certifies that: (a) the foregoing is a true and accurate copy of the same document being filed in paper medium; (b) pursuant to 807 KAR 5:001 § 8(7)(c), there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and (c) the original and copy in paper medium is being filed with the Commission on June 21, 2016.

I further certify that in accordance with 807 KAR 5:001 § 4 (8), the foregoing is being contemporaneously provided via electronic mail to:

Hon. Rocco O. D'Ascenzo

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this 20th day of June, 2016



Assistant Attorney General

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1. Reference the Laub testimony at page 4, line 12. Ms. Laub proposes a depreciation rate for new electric meters based on a 15-year expected useful life.
 - a. Please confirm that the cost-benefit analysis completed by the company assumes a 15-year useful life for new electric meters.
 - b. How long, in years, is the manufacturer's warranty on the new electric meters?

2. Reference the Laub testimony at page 5, line 4. Ms. Laub proposes a depreciation rate for new gas modules based on a 9-year expected useful life.
 - a. Please confirm that the cost-benefit analysis completed by the company assumes a 9-year useful life for new gas modules.
 - b. How long, in years, is the manufacturer's warranty on the new gas meter modules designed to work with AMI (combination customers)?
 - c. How long, in years, is the manufacturer's warranty on the new gas meter modules designed to work with AMR (gas-only customers)?

3. Reference the Laub testimony, pages 6-8. Ms. Laub asks that equipment being retired prematurely as a result of the instant application be reclassified as regulatory assets to allow for the opportunity to request recovery of these expenses in a future rate case. Please confirm that these costs are not included in the Company's cost-benefit analysis. If these costs are not included, please explain why they are not included.

4. Reference the Schneider testimony, pages 9-10 regarding the AMI communications network and page 13, regarding "mass meter pinging."
 - a. Will the communications network design have sufficient bandwidth (data capacity) to handle such tasks?
 - b. Please provide documentation that describes:
 - (i) the use cases the communications network was designed to accommodate;
 - (ii) the associated bandwidths required; and
 - (iii) the sufficiency of the network as designed and budgeted to deliver required bandwidth.

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5. Reference the Schneider testimony, page 27, lines 8-13. Mr. Schneider states that benefits attributable to cost savings and increased revenues will naturally flow to customers in a future base rate case. Please confirm that:
 - a. absent any accounting mechanism to the contrary, such benefits will flow to shareholders until the future base rate case; and
 - b. absent any accounting mechanism to the contrary, the timing of the future electric base rate case will impact the size and speed at which some such benefits will flow to customers. For example, in the instance that the next rate case is processed before some operating efficiencies and revenue increases ultimately anticipated have been realized, such additional benefits will flow to shareholders, not customers, until a second, subsequent rate case is processed.

6. Reference Mr. Schneider's response to AG-1-8. Mr. Schneider reports that according to Google Analytics, approximately 6% of Duke Energy Ohio ("DEO") customers accessed interval usage data over a 12-month period.
 - a. Please confirm that the 44,000 figure is better described as a count of "page hits" rather than a count of interval data access.
 - b. Please identify the page on the Duke Energy website from which the Google Analytics figure of 44,000 was taken.
 - c. Please confirm that the 6% estimate is likely overstated based on the facts that:
 - i. Google Analytics counts visits to a page, not actual interval data downloads;
 - ii. Google Analytics does not distinguish between a single individual who visits multiple times from multiple individuals who visit once;
 - iii. Google Analytics cannot identify visitors to a page who aren't customers.

7. Reference the Schneider testimony, page 27, lines 20-23, as well as Mr. Schneider's response to AG-1-9. Provide research that confirms or denies that simply making usage data available has any statistically significant effect on usage. Most research indicates how difficult it is to get customers to retrieve such data, let alone use it for

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conservation.¹ Please confirm, in the event the CPCN is approved, that the Company will commit to implementing a program similar to the Predictive Usage Estimator and Alert Program described by Dr. Weintraub on p. 10 of his testimony, lines 8-15, prior to the AMI roll-out, and that it will promote it aggressively.

8. Reference the Schneider testimony, page 32, lines 1-3. Mr. Schneider states the Company is not proposing any new dynamic or time-of-use rates for residential customers. Please confirm, in the event the CPCN is approved, that in order for benefits to outweigh costs, the Company will have to aggressively promote and obtain the permission of a significant number of customers to switch to time of use rates with a critical peak price or peak time rebate feature.

a. Is there any reason why the Company wouldn't offer, or would oppose, a voluntary time-of-use rate for customers with smart meters?

9. Reference Attachments DLS-1 through DLS-4 sponsored by Mr. Schneider, as well as the spreadsheet Mr. Schneider provided in response to PSC 1-34, entitled "STAFF-DR-034-Attachment DLS-4-CONF.xls". In this DR the OAG is attempting to better understand how the size of each claimed benefit was estimated. For most benefit types, a jump in benefit is detected in an early year (generally 2017 through 2021), presumably the first year after full deployment and/or the first year in which full anticipated benefits are to be realized in a new, steady state for each particular type of benefit. Please provide the workpapers, calculations, assumptions, and inputs associated with the following files for the Commission and the OAG to understand how each estimate was determined for the apparent "first full benefit year" indicated:
{BEGIN CONFIDENTIAL}

[REDACTED]

¹ Darby, Sarah. *Smart Metering: What Potential for Householder Engagement?* Building Research and Information, 38:5, 442-457.

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[REDACTED]
[REDACTED] {END CONFIDENTIAL}

10. As points of reference for the responses to be provided in the immediately preceding DR, please provide the amounts spent by the Company in 2015 in each of the areas listed below. In cases in which the Company must estimate these amounts, please provide the workpapers, calculations, assumptions, and inputs required for the Commission and the OAG to understand how such estimates were determined:
{BEGIN CONFIDENTIAL}

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

i. [REDACTED] END CONFIDENTIAL}

11. Reference the Henning testimony, page 13, lines 21-22. Mr. Henning states that the Company wishes to provide a suite of enhanced basic customer services once the Meter Upgrade is completed. The OAG believes the Company's customer service function to be critical in customer awareness of these services, but also to the Company's delivery of anticipated benefits, from helping customers to understand their energy use, to "pinging" meters, to remotely reconnecting electric service, etc.

Dr. Weintraub states that Duke Energy has more than 7.4 million customers (Weintraub testimony, page 4, lines 5-10), and Mr. Schneider states in his response to his response to AG-1-80 that DEO is the (only) other Duke Energy subsidiary to complete a system-wide conversion to AMI meters. In light of the fact that the vast majority of Duke Energy's 7.4 million customers do not have smart meters or smart meter capabilities, please describe, in the event DEK's application is approved, the process and system enhancements the Company will make to ensure customer

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service personnel optimize the benefits the Company anticipates from the Meter Upgrade despite the minority status of smart-metered DEK customers and associated capabilities among the millions of Duke Energy customers the customer service personnel serve.

12. Referencing the Company's application generally, multiple witnesses describe the ability of customers to access their energy usage data via a secure, online portal. Please confirm that Customers will be able to access and download their energy usage data via the Green Button Connect standard.
13. Reference the Schneider testimony, pages 10 and 11. Mr. Schneider describes the back-office systems that will be used to translate data from meters into customer bills. Please provide a diagram of how meter data will be collected, transported, processed, cleaned, and stored from meter to bill, including all hardware, software, and repositories. Also indicate:
 - a. If and how customers can access historical usage data using Green Button Connect standards;
 - b. If and how customers can access usage data in near-real time using Green Button Connect standards individually;
 - c. If and how third party energy managers, with customer authorization, can access historical usage data using Green Button Connect standards;
 - d. If and how third party energy managers, with customer authorization, can access usage data in near-real time using Green Button Connect standards for tens of thousands of customers simultaneously (as third party energy managers might require during demand response events);
 - e. If and how the smart meters will be integrated into the Outage Management System;
 - f. If and how the smart meters will be used in the event of widespread outages;
 - g. If and how the smart meters are to be used for individual premise outage notification, and if so, how the Company will minimize false-positive reports; and

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- h. The number of customers participating in time-varying rates the proposed back-office systems and business processes can handle.
14. Reference the Schneider testimony on pages 6 and 7. It is clear from the testimony of Mr. Schneider and others that no (or almost no) gas meters will be read by Company representatives. One of the functions of manual gas meter reading is leak detection. Please describe how the Company proposes to address this potential safety issue.
15. Reference Mr. Schneider's confidential response to PSC 1-32. Mr. Schneider notes the Company's estimate for the benefit of "reduced non-technical losses" was based on an EPRI study indicating that {BEGIN CONFIDENTIAL} █% {END CONFIDENTIAL} of revenues are lost in the meter-to-cash cycle, and that {BEGIN CONFIDENTIAL} █% {END CONFIDENTIAL} of this results from 3 sources (that can be addressed via smart metering): {BEGIN CONFIDENTIAL} █ █ █ {END CONFIDENTIAL}. While the OAG appreciates that the Company conservatively utilized the lower end {BEGIN CONFIDENTIAL} (█%) {END CONFIDENTIAL} of the lost revenue assumption in its benefit estimate, the Company's benefit calculation assumes smart metering will completely eliminate revenues lost from these 3 sources, or 100% of {BEGIN CONFIDENTIAL} █% {END CONFIDENTIAL} .
- a. Does Mr. Schneider believe that a 100% reduction of revenues lost from these 3 sources is possible? If so, please explain why.
 - b. Please describe how the Company's business and analytical processes will be configured to secure 100% of the revenues lost from these 3 sources.
 - c. If the Company agrees that it is unlikely that smart metering plus business and analytical process configurations can secure 100% of the revenues lost from these 3 sources, please provide a modified estimate of the lost revenue benefit assuming a more achievable performance level based on proposed business and analytical process changes. Please provide the workpapers, inputs, assumptions, and calculations associated with this modified estimate.
16. Reference the response to AG 1-7. If DEK did not perform any studies relevant to what its own customers want, how can it claim it knows what they want? Explain fully.

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17. Reference the response to AG 1-9, wherein DEK states it is not aware of any studies that AMI leads to long-term conservation and ratepayer savings. If DEK is unable to provide any such studies, explain fully why the Commission should believe any such assertions.
18. Reference AG 1-13, wherein the company referred to its response to PSC 1-25. DEK, according to its responses to AG 1-11, AG 1-48 and AG 1-51 is basing estimates for costs savings to be achieved in DEK's territory upon cost savings already obtained in DEO 's system-wide AMI deployment, thus placing the DEO AMI deployment within the scope of relevance of the instant proceeding. Provide the amounts that DEO: (a) currently charges for remote connects/disconnects; and (b) charged for non-remote connects/disconnects prior to the installation of the AMI system.
 - a. With regard to DEK's response to AG 1-13 (d), provide the number of DEO's disconnections for non-payment on a monthly basis since the beginning of the AMI deployment in that territory, in addition to the monthly number of disconnections for non-payment for a one-year period prior to the start of the AMI deployment.
19. Reference the response to AG 1-20, wherein DEK states that "[d]etailed cost information is not readily available for these events." Provide the total amount of costs for all such incidents during the referenced time frame.
20. Reference the response to AG 1-41. Will all customers receive a request from the company asking for the customer's permission to share any or all of "Customer Data," "Personal Information," and/or "Customer Information"?
 - a. If so, will all customers receive the request for permission to share any or all of the above-listed types of information at the time their meters are upgraded in accordance with the terms of the proposed program set forth in the instant case? If not at that time, state when will they receive such a request, and which customers will receive such requests.
21. Reference the response to AG 1-48 (b), the paragraph on p. 3 of that response beginning with the phrase "Customer Feedback (Prius Effect)." Do DEK, and/or any of its affiliates believe that the kWh reduction referenced therein could be

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translated into a quantifiable reduction of CO₂ produced at DEK's generating stations from the generation of electricity?

22. Reference the response to AG 1-61. In the event DEK finds any additional capital and O&M costs that should be inputted into the cost-benefit analysis set forth in the Confidential versions of Attachments DLS-3 and DLS-4, will DEK agree to supplement its responses and file them with the Commission into the current docket? If not, why not?
23. Has DEK attempted to obtain any grants from the U.S. Department of Energy (USDOE) for any portion of the costs expected under the proposed smart meter program? Please confirm that: (i) DEO did obtain grant funding from USDOE for the smart meter program in its service territory; and clarify (ii) what amounts of grant funding were applicable to electric meters and related infrastructure; and (iii) what amounts of grant funding were applicable to gas meters and related infrastructure.
 - a. Identify any and all other Duke Energy service territories in which DEK affiliates were able to obtain DOE grants for smart meter deployments.
 - b. To the extent that the company confirms that DEO did obtain grant(s) for funding of the smart meter program in that service territory, please state whether this skews the cost-benefit analysis upon which DEK relies as set forth in Attachments DLS-3 and DLS-4.
 - c. Confirm that PUCO staff, in its comments dated Nov. 4, 2011, at pp. 25-26 and accessible at the link provided below, calculated a net benefit to DEO ratepayers of only \$13.7 million when DOE grant funding was subtracted.
24. Confirm that DEO has created a Smart Grid Collaborative for its service territory. In the event DEK's application in the instant case is approved, would DEK agree to create such a collaborative in its own service territory? If not, why not?
25. Describe the audit report and audit process that PUCO created for DEO's smart meter deployment program.² Would DEK agree to a similar audit process in its service territory? If not, why not?

² See, e.g., PUCO Staff Comments dated Nov. 4, 2011 at:
<http://dis.puc.state.oh.us/TiffToPDF/A1001001A11K04B65109G08063.pdf>

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26. Confirm that with regard to the DEO smart meter project, PUCO staff on p. 14 of the report accessible at the link provided in footnote 2, below, stated: “the Smart Grid will provide Duke with multiple profit opportunities. Duke should therefore not be allowed to retain any portion of avoided costs or enhanced revenues.”
 27. Provide a hyperlink to either the PUCO or DEO website at which DEO’s tariffs for residential class time-differentiated rates can be accessed. If DEO has more than one type of time-differentiated rate for the residential class, provide a link to all such tariffs.
 28. Reference the response to AG 1-68, wherein DEK acknowledges that in North and South Carolina, Duke Energy (Carolinas)(“DEC”) is deploying AMI technology on an incremental basis only. Additionally, reference the response to AG 1-84, wherein the company states, “to replace meter[s] on a rolling basis is not feasible with this type of metering solution,” and company’s response to PSC 1-4 and PSC 1-16, where the company notes that the same meters and system chosen for this project are also being deployed in other Duke jurisdictions.
 - a. Given these facts, will the deployment of AMI technology in the DEC territory be cost-effective to ratepayers (i.e., will benefits exceed costs) in that service territory?
 - b. If the answer to subpart a., above, is that the incremental deployment is not cost-effective to ratepayers in the DEC territory, please confirm that cost-effectiveness for ratepayers is not the company’s main priority in AMI deployment.
 - c. If this incremental deployment process is not only “feasible” but is actually being used in DEC with the same AMI system, explain in complete detail why incremental deployment is not “feasible” in DEK’s territory?
 - d. Confirm that Duke’s AMI deployment in its jurisdictions across the country is a profit center for the company.
 29. Reference the response to PSC 1-31, wherein the company explains the Prius Effect.
 - a. Confirm that the Prius Effect is only effective insofar as the driver in the company-provided explanation is able to immediately react to feedback
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they receive right in the dashboard (stimulus) in order to reduce consumption.

- b. Confirm that any data collected pursuant to the Company's AMI upgrade will be transmitted to the customer daily, rather than real-time.