

VERIFICATION

STATE OF NORTH CAROLINA)
COUNTY OF ~~MECKLENBURG~~ &) SS:
Lincoln)

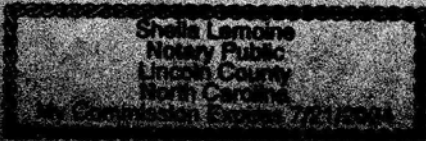
The undersigned, Scott Park, Director IRP & Analytics-Midwest, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.



Scott Park, Affiant

Subscribed and sworn to before me by Scott Park on this 15 day of December 2021.


NOTARY PUBLIC



My Commission Expires 7/2/2024

**G.S. § 10B-41 NOTARIAL CERTIFICATE
FOR ACKNOWLEDGMENT**

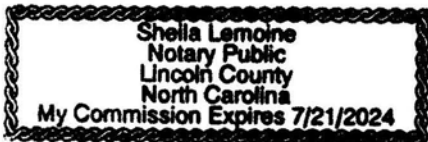
Lincoln County, North Carolina

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he or she signed the foregoing document: Scott Park

Date: December 15, 2021



Official Signature of Notary



Sheila Lemoine, Notary Public

My commission expires: July 21, 2024

I signed this notarial certificate on December 15, 2021 according to the emergency video notarization requirements contained in G.S. 10B-25.

Notary Public location during video notarization: Lincoln County

Stated physical location of principal during video notarization: Mecklenburg County

This certificate is attached to a Verification signed by Scott Park on December 15, 2021.

VERIFICATION

STATE OF ALABAMA)
) SS:
COUNTY OF JEFFERSON)

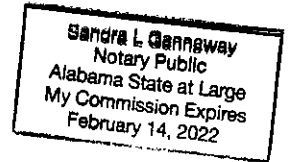
The undersigned, Vicky Sullivan, Public Policy Director, being duly sworn, deposes and says that she has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of her knowledge, information and belief.


Vicky Sullivan, Affiant

Subscribed and sworn to before me by Vicky Sullivan on this 7th day of DECEMBER 2021.


NOTARY PUBLIC

My Commission Expires:



VERIFICATION

STATE OF INDIANA)
) **SS:**
COUNTY OF HENDRICKS)

The undersigned, Andrew Taylor, Manager Products & Services, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.



Andrew Taylor, Affiant

Subscribed and sworn to before me by Andrew Taylor on this 3 day of December, 2021.



NOTARY PUBLIC

My Commission Expires: 3/13/24



VERIFICATION

STATE OF NORTH CAROLINA)
)
COUNTY OF MECKLENBURG) **SS:**

The undersigned, Brett Phipps, Managing Direct – Fuel Procurement, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.


Brett Phipps, Affiant

Subscribed and sworn to before me by Brett Phipps on this 30 day of november, 2021.


NOTARY PUBLIC

My Commission Expires:

SHAMALE M WILSON
Notary Public, North Carolina
Mecklenburg County
My Commission Expires
July 06, 2023

VERIFICATION

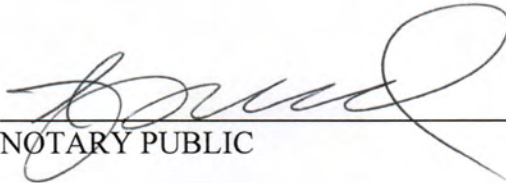
STATE OF OHIO)
)
COUNTY OF HAMILTON) **SS:**

The undersigned, Brian Bak, Manager DSM Analytics, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests and that the answers contained therein are true and correct to the best of his knowledge, information and belief.



Brian Bak, Affiant

Subscribed and sworn to before me by Brian Bak, on this 14th day of December, 2021.



NOTARY PUBLIC

My Commission Expires:



ANDREW J. DUMOND
NOTARY PUBLIC, STATE OF OHIO
HAMILTON COUNTY
My Commission Expires 7/16/2022

VERIFICATION

STATE OF NORTH CAROLINA)
)
COUNTY OF MECKLENBURG *82*) SS:
 Lincoln)

The undersigned, Matt Ruscio, Business Development Director, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

[Handwritten Signature]
Matt Ruscio, Affiant

Subscribed and sworn to before me by Matt Ruscio on this 13 day of December 2021.

[Handwritten Signature]
NOTARY PUBLIC

Sheila Lemoine
Notary Public
Lincoln County
North Carolina
My Commission Expires 7/21/2024

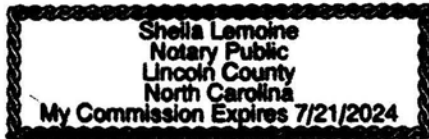
My Commission Expires: July 21, 2024

**G.S. § 10B-41 NOTARIAL CERTIFICATE
FOR ACKNOWLEDGMENT**

Lincoln County, North Carolina

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he or she signed the foregoing document: Matt Ruscio

Date: December 13, 2021



Sheila Lemoine
Official Signature of Notary

Sheila Lemoine, Notary Public

My commission expires: July 21, 2024

I signed this notarial certificate on December 13, 2021 according to the emergency video notarization requirements contained in G.S. 10B-25.

Notary Public location during video notarization: Lincoln County

Stated physical location of principal during video notarization: Mecklenburg County

This certificate is attached to a Verification signed by Matt Ruscio on December 13, 2021.

VERIFICATION

STATE OF NORTH CAROLINA)
) SS:
COUNTY OF MECKLENBURG)

The undersigned, Matthew Kalemba, Director DET Planning & Forecasting, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

Matthew Kalemba
Matthew Kalemba, Affiant

Sworn to and subscribed before me this 2nd day of December, 2020.

Peggy Holton
Notary Public

My Commission expires: 12/22/2021



[SEAL]

I signed this notarial certificate on 12/2/2021 according to the emergency video notarization requirements contained in G.S. 10B-25.


Notary Public location during video notarization: Wake County

Stated physical location of principal during video notarization: Mecklenburg County

VERIFICATION

STATE OF OHIO)
)
COUNTY OF HAMILTON) SS:

The undersigned, Sarah E. Lawler, VP Rates & Regulatory Strategy OH/KY, being duly sworn, deposes and says that she has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of her knowledge, information and belief.



Sarah E. Lawler Affiant

Subscribed and sworn to before me by Sarah E. Lawler on this 1st day of December, 2021.



NOTARY PUBLIC

My Commission Expires:



ROCCO O. D'ASCENZO
ATTORNEY AT LAW
Notary Public, State of Ohio
My Commission Has No Expiration
Section 147.03 R.C.

KyPSC Case No. 2021-00245
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Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-001

REQUEST:

Reference the response to AG-DR-1-1 (c). Explain whether increasing international demand for coal and rising natural gas prices will mitigate the referenced volatility in coal markets.

RESPONSE:

The current increase in international demand for coal and rising natural gas prices serves to increase the volatility in coal markets referenced in the AG-DR-01-001 response as coal production has been unable to keep pace with both rising domestic and export demand.

PERSON RESPONSIBLE: Brett Phipps

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-002

REQUEST:

Reference the response to AG-DR-1-1 (f). In the event such federal government program funding does become available for this purpose, explain whether DEK has any interest in pursuing such funding, or whether it will forego any efforts to obtain such funds and instead look solely to its ratepayers to pay any such stranded costs.

RESPONSE:

Objection. Calls for speculation. Without waiving said objections, and to the extent discoverable, if federal government program funding were available, the Company would explore the feasibility of obtaining such funding.

PERSON RESPONSIBLE: Sarah E. Lawler
Legal, as to objection.

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-003

REQUEST:

Confirm that DEK's ultimate parent company, Duke Energy, Inc., has in place a plan (hereinafter "the Corporate Plan") to reduce carbon dioxide and other greenhouse gasses (hereinafter "CO2") throughout all of its service territories. If so confirmed:

- a. Provide a copy of the Corporate Plan.
- b. Explain what role, if any, that North Carolina's 2019 Clean Energy Plan played in developing, impacting or influencing the Corporate Plan.
- c. Explain the CO2 reduction goals that DEK has been assigned under the Corporate Plan.
- d. Explain the CO2 reduction goals that DEK's immediate parent, Duke Energy, Ohio ("DEO") has been assigned under the Corporate Plan.
- e. Explain the CO2 reduction goals that DEK's affiliate, Duke Energy Indiana ("DEI") has been assigned under the Corporate Plan.
- f. Explain whether the carbon reduction goals of DEK, DEO and/or DEI are: (i) aggregated and considered in their entirety for Duke Midwest; (ii) whether the carbon reduction goals of one or more affiliates are considered on a stand-alone basis; or (iii) aggregated and considered in their entirety throughout all of Duke Energy, Inc.'s service territories.

- g. Explain how the CO2 reduction goals applicable to DEK were incorporated into the instant IRP, and how they were factored into the various analyses and scenarios included within the IRP.
- h. If DEK has its own CO2 reduction plan, provide a copy of such.
- i. If any Duke Midwest affiliates have their own CO2 reduction plans, provide copies of such.
- j. Explain how DEK will ensure reliability of service to its customers in the face of meeting the CO2 reduction goals.

RESPONSE:

- a. Duke Energy has adopted corporate goals to reduce carbon dioxide from electricity generation by at least 50% from 2005 levels by 2030 and to achieve net-zero emissions by 2050. It has also adopted a corporate goal to achieve net-zero methane emissions from its natural gas distribution business unit by 2030. There is no Corporate Plan to achieve these goals; the overall goals for carbon emissions from electricity generation and methane emissions from natural gas distribution will be achieved through actions proposed to and approved by regulators in each of the jurisdictions in which Duke Energy operates. Duke Energy did publish, in the first quarter of 2020, a Climate Report, which lays out an enterprise-level scenario analysis with an illustrative path to net zero emissions from its corporate-level electricity generation. This, however, is not a Corporate Plan and only discusses scenario results at the corporate level; it does not show any jurisdictional-level detail for individual Duke Energy operating companies, including Duke Energy Kentucky, Duke Energy Ohio, and Duke Energy Indiana.

- b. Duke Energy was aware of the 2019 North Carolina Clean Energy Plan as it developed the 2020 corporate Climate Report, but because the Plan had not yet been operationalized by legislation, it was not specifically included in assumptions for the 2020 Climate Report.
- c. See response to (a) above, Duke Energy's greenhouse gas emissions reduction goals are at the corporate level. Duke Energy Kentucky does not currently have a specific CO2 reduction target or plan, but the Company does look for opportunities to improve the resource mix over time across a variety of factors including, but not limited to, diversification of the resource mix, reduction of fuel cost or rate volatility, avoiding over-reliance on the power market, reduced exposure to cost risks from federal carbon or environmental regulations, emissions reductions, and state and local economic development potential. This ongoing work will be reflected in the range of portfolios shown in future Duke Energy Kentucky IRPs while maintaining high standards for reliability and affordability.
- d. See response to (a) above, Duke Energy's greenhouse gas emissions reduction goals are at the corporate level. Duke Energy Ohio has no generation and does not have specific emission reduction goals assigned.
- e. See response to (a) above, Duke Energy's greenhouse gas emissions reduction goals are at the corporate level. Duke Energy Indiana does not have specific emission reduction goals assigned. Scott to provide CO2 reduction ranges from IRP.
- f. Objection. This question seeks information that is irrelevant to this proceeding insofar as it seeks information related to utilities not regulated by the Kentucky

Public Service Commission and this is overbroad, unduly burdensome and not likely to lead to the discovery of any relevant or admissible evidence. Without waiving said objection and to the extent discoverable, Duke Energy's greenhouse gas emissions reduction goals are at the corporate level. There are no goals assigned to Duke Energy Kentucky, Duke Energy Ohio, Duke Energy Indiana, or any combination of those Duke Energy subsidiaries.

- g. As mentioned in part (c), since Duke Energy Kentucky does not currently have a specific CO2 reduction target or plan, no explicit goal was factored into the IRP analysis.
- h. See response to (c) above.
- i. Objection. This question seeks information that is irrelevant to this proceeding insofar as it seeks information related to utilities not regulated by the Kentucky Public Service Commission and this is overbroad, unduly burdensome and not likely to lead to the discovery of any relevant or admissible evidence. Without waiving said objection and to the extent discoverable, Duke Energy's greenhouse gas emissions reduction goals are at the corporate level. There are no goals assigned to Duke Energy Kentucky, Duke Energy Ohio, Duke Energy Indiana, or any combination of those Duke Energy subsidiaries.
- j. As mentioned in part (c), since Duke Energy Kentucky does not currently have a specific CO2 reduction target or plan, there would be no impact on reliability.

PERSON RESPONSIBLE: Vicky Sullivan
Scott Park

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-004

REQUEST:

With regard to the Company's responses to question no. 2, above, explain how the October 13, 2021 enactment of North Carolina House Bill 951 affects: (i) DEK and the instant IRP; (ii) North Carolina's 2019 Clean Energy Plan; (iii) the Corporate Plan referred to in question no. 2; and (iv) the CO2 reduction plans of DEK or any other Duke Midwest affiliate.

RESPONSE:

The enactment of North Carolina House Bill 951 does not directly affect Duke Energy Kentucky and the instant IRP, nor does it directly affect any other Duke Energy Midwest affiliate. It does provide legislative authority for the goals of North Carolina's 2019 Clean Energy Plan, which envisioned a 70% reduction in greenhouse gas emissions from electricity generation from 2005 levels by 2030 and carbon-neutral electricity generation in the state by 2050. As the implementation plan for HB 951 is developed during 2022 by the North Carolina Utilities Commission, it will be incorporated into the scenarios modeled in Duke Energy's planned 2022 climate report.

PERSON RESPONSIBLE: Vicky Sullivan

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-005

REQUEST:

Provide a comprehensive discussion of the extent to which Duke Midwest engages in and undertakes integrated resource planning processes for its three affiliated companies (DEO, DEI and DEK) on a combined basis, especially with regard to supply side resources, and whether combining supply side resources on a joint basis can provide economies of scale that may be competitive as least cost resources for each affiliate participating in such a joint supply side resource.

RESPONSE:

Duke Energy does not plan its Midwest utilities' supply side resources on a combined basis. Duke Energy Ohio does not own generation and procures supply through a competitive retail auction. Duke Energy Indian is not in PJM.

PERSON RESPONSIBLE: Scott Park

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-006

REQUEST:

Confirm that DEI's pending IRP docket includes a preferred plan that identifies several supply side resources, including solar, solar plus storage, wind, a 1,221 MW combined cycle gas plant (CCGT), and a 1,160MW combustion turbine (CT) gas peaker.

- a. Provide a copy of any non-confidential slide presentation that DEI provided at the November 16, 2021 meeting held with its IRP stakeholders. Provide also a link to the current IRP docket.
- b. State when DEO's next IRP docket is expected to be filed. If an IRP docket is currently pending, provide a copy of any slide presentation provided to DEO's stakeholders. Provide a link to the most recent DEO IRP docket.
- c. Explain whether Duke Midwest's planning processes include the possibilities and potential for more than one affiliate joining in a supply side resource in order to achieve economies of scale. If not: (i) why not?; and (ii) explain how the IRP analysis deployed is truly aimed at determining least cost resources.
- d. Explain whether the IRP process utilized by DEK analyzed any potential cost savings that could be achieved by participating in a supply side resource that either DEO or DEI (or both) selects. If not, explain fully and completely, why not.
- e. Explain whether Duke Midwest ever engages in planning for joint-affiliate supply side resources outside of the IRP process, including the CPCN process.

- f. Include in your responses to question nos. 5 and 6 (and all subparts, as applicable), above, whether your responses have any bearing or relevance to the Company's response to PSC Staff's DR-2-3. If so, please explain in detail.

RESPONSE:

- a. Objection. This request is Irrelevant, unlikely to lead to the discovery of relevant information as it seeks information that is not related to Duke Energy Kentucky and thus is beyond the scope of this proceeding.
- b. The next Duke Energy Ohio IRP will be filed in June of 2022 but does not include generation as Duke Energy Ohio is deregulated, does not own generation, and procures supply for non-witched load through a competitive retail auction. There is no Duke Energy Ohio IRP stakeholder process.
- c. Once the decision is made to go forward with procuring a resource of sufficient size, Duke Energy Kentucky will consider the possibility of working with an affiliate in order to take advantage of any synergies. Having said that, affiliates operating in different RTOs, or under regulatory models where supply side resources are procured through retail auctions, will need to be taken into consideration.
- d. Joint planning was not part of the 2021 Duke Energy Kentucky IRP due the timing of need and siting considerations for Duke Energy Kentucky and its affiliates including operating in different RTOs and under regulatory models where supply is procured via auction.
- e. It is expected that as part of the preparation for the CPCN process for a larger resource addition, Duke Energy Kentucky will examine feasibility of

opportunities with affiliates as well as other companies in order to take advantage of any synergies.

- f. Please see responses to STAFF-DR-02-003, as well as AG-DR-01-006(c)-(e).

PERSON RESPONSIBLE: Scott Park

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-007

REQUEST:

Reference the response to AG-DR-1-7.

- a. Confirm that RECs provide additional value to renewable energy projects.
- b. Would DEK under any circumstances allow RECs to inure to the benefit of its ultimate parent company's shareholders?
- c. Explain whether any affiliates of DEK allow RECs to inure to shareholders' benefit.
- d. Explain why DEK did not address the issue of RECs in this IRP.
- e. Explain whether DEK addressed the issue of RECs in prior IRPs.

RESPONSE:

- a. Yes, RECs provide additional value to renewable energy projects.
- b. Revenue from RECs that are generated and sold into the market are shared with Duke Energy Kentucky customers via the existing Profit Sharing Mechanism Rider, which means that 90 percent of the revenue is credited to customers.
- c. Other than as described above in Part B, none of Duke Energy's regulated utilities' REC proceeds inure to shareholders. It is possible that the Duke Energy Commercial affiliate may, under some circumstances, sell RECs for shareholder benefit.

- d. While the inclusion of RECs would not have materially impacted the expansion plan developed in the Duke Energy Kentucky IRP, in hindsight, the issue of RECs could have been directly addressed in the IRP.
- e. The issue of RECs was not addressed in prior IRPs.

PERSON RESPONSIBLE: Matthew Kalemba

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-008

REQUEST:

Confirm that the efficiency of solar panels decreases over time due to module degradation.

Provide the average percentage of efficiency degradation on an annual basis.

RESPONSE:

Module efficiency degrades over time. General guidance is approximately one-third to one-half of one percent per year. Pending module technology, degradation may differ. Pending the module manufacturer, modules may come with a Power Output Warranty over the life of the asset.

PERSON RESPONSIBLE: Matt Ruscio

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-009

REQUEST:

Confirm that based on the combination of: (i) improving efficiency rates of solar panels; and (ii) overall decreasing costs of new solar panels, in some cases it will prove more cost-effective for solar project owners to retire existing panels prior to the end of the panels' expected lifespan, and install new panels in their place.

RESPONSE:

Duke Energy cannot confirm that it is more cost effective to retire existing panels prior to the end of the panels' expected lifespan, and install new panels based on increased efficiency and/or overall decreasing costs.

PERSON RESPONSIBLE: Matt Ruscio

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

PUBLIC AG-DR-02-010

REQUEST:

Reference the response to AG-DR-1-8 (b).

- a. Confirm that in the case of solar Purchase Power Agreements (“PPA”), project owners would likely factor the costs of decommissioning the project into the prices charged to the solar power PPA purchaser, even though DEK (as a potential purchaser) would not itself bear the obligation to decommission the project.
- b. Confirm that solar PV modules can contain lead, cadmium, antimony and other potentially toxic materials.
- c. Explain whether the planning models utilized in the current IRP contain any cost estimates regarding the obligation to landowners or the Authority Having Jurisdiction (“AHJ”) for the decommissioning of any solar projects or potential solar projects. If so, provide all such estimates, including estimates based on both recycling of used panels, and disposing of them in landfills.
- d. Explain whether it is currently more cost-effective to recycle used solar panels that have reached the end of their useful life span, or to dispose of them in landfills. If the latter, explain whether the used solar panels would be designated as hazardous waste under applicable federal and Kentucky law.

- e. Provide a list of the jurisdictions of which DEK and its affiliates are aware which regulate the disposal of solar panel components, and explain whether any such jurisdictions identify any solar panel components as hazardous waste.
- f. Confirm that according to a 2016 EPRI study, the results of which are summarized in the slide presentation linked in the footnote below,¹ some PV modules are not classified as hazardous waste, but some modules contain hazardous materials; in fact, the study concluded in part that “Module disposal is potentially a major issue.”²
- g. Confirm that based on statements from Lu Chang, secretary general of the photovoltaics division of the China Renewable Energy Society, quoted in the article accessible in the footnote below:³
- “The problem of solar panel disposal will explode with full force in two or three decades and wreck the environment” because it “is a huge amount of waste and they are not easy to recycle.”
 - “The reality is that there is a problem now, and it’s only going to get larger, expanding as rapidly as the PV industry expanded 10 years ago.”
 - “Contrary to previous assumptions, pollutants such as lead or carcinogenic cadmium can be almost completely washed

¹ See especially slide nos. 18-20, at: https://www.solarpowerinternational.com/wp-content/uploads/2016/09/N253_9-14-1530.pdf

² *Id.* at slide 20.

³ <https://www.forbes.com/sites/michaelshellenberger/2018/05/23/if-solar-panels-are-so-clean-why-do-they-produce-so-much-toxic-waste/?sh=854d0a7121cc>

out of the fragments of solar modules over a period of several months, for example by rainwater.”

- h. Regarding self-built or self-owned solar projects, describe what policy(ies) DEK and its affiliates have in place regarding disposal of decommissioned solar PV cells.
- i. Explain whether DEK and its affiliates are aware of any entities which recycle solar panel components.
- j. Confirm the following quoted statement from the June 18, 2021 Harvard Business Review article, “The Dark Side of Solar Power,” accessible in the footnote below:⁴

“The totality of these unforeseen costs could crush industry competitiveness. If we plot future installations according to a logistic growth curve capped at 700 GW by 2050 (NREL’s estimated ceiling for the U.S. residential market) alongside the early replacement curve, we see the volume of waste surpassing that of new installations by the year 2031. By 2035, discarded panels would outweigh new units sold by 2.56 times. In turn, this would catapult the LCOE (levelized cost of energy, a measure of the overall cost of an energy-producing asset over its lifetime) to four times the current projection. The economics of solar — so bright-seeming from the vantage point of 2021 — would darken quickly as the industry sinks under the weight of its own trash. . . . It will almost certainly fall to regulators to decide who will bear the cleanup costs.”

⁴ <https://hbr.org/2021/06/the-dark-side-of-solar-power>

RESPONSE:

CONFIDENTIAL PROPRIETARY TRADE SECRET

- a. Under a PPA, the purchaser of the power is contractually obligated to purchase power based on a negotiated price with the asset owner. It is likely the project owner would include the cost of decommissioning the project into its overall cash flow.
- b. The primary content of solar panels is silica (sand), comprising the glass panels and cells themselves. There are trace heavy metals in modules, which are encapsulated in the glass panel.
- c. [REDACTED]
[REDACTED]
[REDACTED]
- d. It is currently more expensive to recycle solar panels that have reached end of life than to dispose of them. Solar panels are not specifically considered hazardous waste. Specific solar panel technologies or models may be considered hazardous. The generator must determine if the waste is hazardous and manage it appropriately.
- e. The Federal RCRA program regulates solar panel components during disposal. Duke Energy is aware that the state of California allows for managing solar panels as Universal Waste during disposal. Duke Energy is unaware of any other jurisdictions which regulate the disposal of solar panel components. Duke Energy is unaware of any jurisdictions that identify solar panel components as hazardous waste.

- f. Objection, this request seeks information that is publicly available and not created by or under the control of Duke Energy Kentucky and to the extent is seeking Duke Energy Kentucky to verify the veracity of this document it thus calls for speculation. Without waiving said objection, to the extent discoverable, the document says what it says.
- g. Objection, this request seeks information that was not created by or under the control of Duke Energy Kentucky and to the extent is seeking Duke Energy Kentucky to verify the veracity of this document or the individual quoted, it thus constitutes hearsay and calls for speculation. Without waiving said objection, to the extent discoverable, the document says what it says.
- h. Duke Energy intends to recycle PV modules and other materials when a project is decommissioned, and the projected costs are included in the project budget.
- i. The US EPA maintains a web site for solar panel recycling (<https://www.epa.gov/hw/solar-panel-recycling>) that includes up to date information including recyclers in the US.
- j. Objection, this request seeks information that was not created by or under the control of Duke Energy Kentucky and to the extent is seeking Duke Energy Kentucky to verify the veracity of this document or the individual quoted, it thus constitutes hearsay and calls for speculation. Without waiving said objection, to the extent discoverable, the document says what it says.

PERSON RESPONSIBLE: Matt Ruscio
Scott Park
Legal, as to objections.

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-011

REQUEST:

Reference the response to AG-DR-1-8 (c).

- a. Provide the average dollar value per MW that DEK's affiliates have paid to either landowners or AHJs over the last two calendar years for assurances for decommissioning costs for solar projects. Explain also whether the assurance was paid in the form of surety bond, cash deposit, or letter of credit.
- b. Provide examples of the costs that may have to be updated periodically throughout the life of the solar PV system.

RESPONSE:

- a. Duke Energy Kentucky and its affiliates have not had cause to make payments to landowners of AHJs over the last two calendar years for assurances for decommissioning costs for solar projects.
- b. Costs may include labor rates to remove the facility and commodity price assumptions associated with the steel, copper and cabling components used to construct a generating facility.

PERSON RESPONSIBLE: Matt Ruscio

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-012

REQUEST:

Reference the response to AG-DR-1-8 (d). Explain whether the costs of recycling solar panel components include hazardous waste.

RESPONSE:

Recycling costs include the proper handling of hazardous material in the solar panels.

PERSON RESPONSIBLE: Matt Ruscio

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

PUBLIC AG-DR-02-013

REQUEST:

Reference the responses to AG-DR-1-8 I-(f). Provide: (i) the independently verified model; and (ii) DEK's projected costs to operate, maintain and decommission a solar project, including recycling costs.

RESPONSE:

CONFIDENTIAL PROPRIETARY TRADE SECRET

Objection. Without waiving said objection, and to the extent discoverable, [REDACTED]

[REDACTED]

[REDACTED]

PERSON RESPONSIBLE: Matt Ruscio
Legal, as to objection.

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

PUBLIC AG-DR-02-014

REQUEST:

Reference the response to AG-DR-1-12:

- a. In the response to AG-DR-1-12 (a), regarding self-built and / or company-owned wind generation facilities not involving a PPA, explain which stakeholders (e.g., ratepayers, taxpayers, shareholders, project owners, landowners) would be responsible for paying costs of environmental contingencies and/or other tail liabilities.
- b. Confirm that in the case of wind PPAs, wind generation facility owners would likely factor and embed the costs of decommissioning the project into prices charged to the wind power PPA purchaser, even though PPA purchasers (such as DEK, potentially) would not themselves bear the obligation to decommission the project. If not confirmed, explain how wind generation facility owners recoup their decommissioning costs.
- c. Explain whether the planning models utilized in the current IRP contain any cost estimates regarding the obligation to landowners or AHJs for the decommissioning of any wind power projects or potential wind power projects. If so, provide all such estimates.
- d. Provide the average dollar value per MW that DEK's affiliates have paid to landowners and AHJs over the last two calendar years for assurances for

- decommissioning costs for wind power projects. Explain also whether the assurance was paid in the form of surety bond, cash deposit, or letter of credit.
- e. Provide examples of the costs that may have to be updated periodically throughout the life of the wind power system.
 - f. Explain whether the costs of recycling wind generation components includes hazardous waste.
 - g. Regarding the response to AG-DR-1-12 (g), explain whether a wind generating facility⁵ will, or may have to cease or reduce its operations (“curtail”) at various times of the year in order to comply with regulatory requirements pertaining to the number of bird and bat fatalities. If so, explain whether: (i) such curtailed operating hours will affect the facility’s capacity factor; (ii) any DEK affiliates have encountered any similar curtailment of operating hours, and explain how such curtailment(s) affected the project’s cost-competitiveness (regardless of whether the project is self-owned, or whether the affiliate procures the wind generation via a PPA);⁶ and (iii) ratepayers or shareholders bear the risk of additional costs incurred to procure replacement power when a wind facility’s operating hours are curtailed, in whole or in part, as a means to reduce bird and bat fatalities.
 - h. Provide a link to the 2021 U.S. Fish & Wildlife Service (USFWS) Wind Energy Land Based Guidelines. Provide also a listing of all other federal regulations with which wind generation facilities are routinely required to comply.

⁵ Whether the facility is owned by DEK or an affiliate, or whether DEK procures the wind power generation via a PPA.

⁶ Include in your response whether any jurisdictional authority required a revised cost-benefit analysis for a wind generation facility to be conducted after operating hours had to be reduced in order to achieve compliance with any regulatory requirements.

- i. Explain whether wind generation facilities have ever had their operating hours reduced due to environmental curtailment⁷ purposes. If so, explain whether: (i) such curtailed operating hours affected the wind generation facility's capacity factor; (ii) any DEK affiliates have encountered any environmental curtailments, and explain how such curtailment(s) affected the wind generation facility's cost-competitiveness (regardless of whether the project is self-owned, or whether the affiliate procures the wind generation via a PPA); and (iii) ratepayers or shareholders bear the risk of additional costs incurred to procure replacement power when a wind generation facility experiences environmental curtailment.
- j. Reference the response to AG-DR-1-12 (f). Explain whether USFWS and/or any other governmental authorities have ever required wind generation facilities to provide additional spacing between turbines in order to mitigate the risk of bird and bat fatalities. If so, provide examples, as well as any increase in the average number of acres needed to generate 1 MW of wind-generated power.
- k. Explain whether DEK, its service company or affiliates are aware of any wind generating facility owners having voluntarily entered into enforceable agreements with stakeholders and/or USFWS or other governmental authorities to curtail their operations as a means of addressing the risk of bird and bat fatalities. If so, explain which stakeholders (e.g., ratepayers, taxpayers,

⁷ For purposes of these Data Requests, the term "environmental curtailment" includes, but is not necessarily limited to: meteorological conditions, sound emissions, and shadow flicker.

shareholders, project owners, landowners) bear the risk of loss in obtaining replacement power.

RESPONSE:

CONFIDENTIAL PROPRIETARY TRADE SECRET

- a. Objection, calls for speculation and seeks a legal opinion.
- b. Objection, calls for speculation and seeks a legal opinion. Without waiving said objection, and to the extent discoverable, wind generating facility owners are required to meet the decommissioning obligations associated with the Authority Having Jurisdiction (AHJ). Such obligations may include financial securities in the form of a bond, letter of credit, or cash equivalent to cover the costs of decommissioning. It is possible such costs are embedded in a PPA price.

[REDACTED]

[REDACTED]

[REDACTED]

- d. Objection. This request is overbroad and unduly burdensome and seeks information not related to Duke Energy Kentucky or its IRP, and therefore is not likely to result in the discovery of any relevant or admissible evidence. Without waiving said objection, and to the extent discoverable, Duke Energy Kentucky affiliates have not had cause to pay landowners or AHJs over the last two calendar years for assurances for decommissioning costs.
- e. Costs may include labor rates to remove the facility, and commodity prices associated with a facilities' scrap metal. Adjustments to inflation may also be included.
- f. Recycling costs include the proper handling of hazardous material.

- g. Wind generating facilities are sited and designed in compliance with applicable wildlife and natural resources regulations. During the development and construction of a wind generating facility, owners complete applicable siting due diligence, including adherence to the 2012 U. S. Fish and Wildlife Service Land-Based Wind Energy Guidelines and in consultation with USFWS and the State wildlife resource agency on site selection, design, and operation. Consultation and due diligence may result in some limited curtailment recommendations. Such recommendations may reduce net capacity factors, but the recommendations and assumptions are properly included in wind resource studies, and thus calculated as part of the project's overall projected output and competitiveness. As part of a system generating asset, the cost of such investments are applied to ratepayers.
- h. The U.S. Fish & Wildlife Service Wind Energy Land Based Guidelines can be located at www.fws.gov/ecological-services/es-library/pdfs/weg_final/.pdf. In addition, the supplemental permitting matrix identifies all federal requirements that may apply to a wind generating facility. Please see AG-DR-02-014(h) Attachment. Depending on the site characteristics, the project may need to coordinate and obtain permits from the U.S Army Corps of Engineers for Clean Water Act Section 404 compliance. FAA/DOD approvals are also required per appropriate laws and regulations.
- i. Wind generating facilities are sited and designed in compliance with applicable local and federal regulations. Prior to developing and constructing a wind generating facility, Owners complete applicable siting due diligence, including meteorological studies, wind resource studies, shadow flicker studies and

sounds emission studies. Such studies may result in curtailment recommendations. Such recommendations may reduce net capacity factors, but the recommendations and assumptions are properly included in wind resource studies, and thus calculated as part of the project's overall projected output and competitiveness. As part of a system generating asset, the cost of such investments are applied to ratepayers.

- j. Duke Energy Kentucky is not aware of the USFWS or governmental authorities requiring wind generation facilities to provide additional spacing between turbines to mitigate the risk of bird and bat fatalities.
- k. Duke Energy Kentucky and its affiliates are not aware of wind generating facility owners voluntarily entering into enforceable agreements with stakeholders, the USFWS or other governmental authorities to curtail operations as a means of addressing the risk of bird and bat fatalities.

PERSON RESPONSIBLE: Matt Ruscio
Scott Park

Task Name	Regulatory Citation	Background	Time Frame	Regulatory Agency
Duke Energy				
<i>Duke Energy Requirement for Property Sale or Lease</i>				
Phase I Environmental Site Assessment (ESA)	40 CFR 312 and ADMP-ERM-EVS-00002	Evaluation of environmental liability associated with a real estate asset of any type. Can be stand alone effort or could lead to a ESA Phase II.	3 - 4 weeks	EPA
Phase II Environmental Site Assessment (ESA)	39 CFR 312 and ADMP-ERM-EVS-00002	More in depth evaluation of environmental liability associated with a real estate asset of any type.	3 - 4 weeks	EPA
Federal				
<i>Federal NEPA</i>				
Federal Nexus Evaluation for NEPA Compliance	42 U.S.C. §§4321 et seq.(NEPA)	Projects that require federal action generally must conduct a study to determine if there will be significant impacts to the environment.		Federal Agency
Environmental Impact Statement (EIS)/Environmental Assessment (EA)/Finding of No Significant Impact (FONSI)/Record of Decision (ROD)/Categorical Exclusion (CE) or CE with Documentation	42 U.S.C. §§4321 et seq.(NEPA)	Complete EIS, EA, or CE if nexus evaluation determines NEPA is triggered.	3 - 4 months	Federal Agency
<i>Federal Streams and Wetlands</i>				
Preliminary stream and wetland determination investigation	33 U.S.C. §1251 et seq. (1972)	National Wetlands Inventory (NWI) review and preliminary survey.		USACE
Wetland/stream delineation and isolated waters/upland ditches evaluation.	33 U.S.C. §1251 et seq. (1972), USACE 1987 Wetland Delineation Manual	Permit is required to dredge and fill or otherwise disturb wetland or stream areas. It is required prior to the disturbance of any wetland or stream areas. Complete a significant nexus evaluation for isolated waters/upland ditches. Only USACE can determine if a water body is jurisdictional.	1 day	USACE
Formal or Preliminary USACE Jurisdictional Determination based on wetland delineation	33 U.S.C. §1251 et seq. (1972)	Formal Jurisdictional Determination (JD) verification request must come from landowner. Preliminary Jurisdictional Determination (PJD) request can be submitted without landowner authorization form. JD or PJD will be used to delineate waters as well as document waters that were previously identified on NWI maps as non-jurisdictional.	45 days	USACE
USACE Permit (Section 10 and/or Nationwide Permit, Regional General Permit, or Individual Permit)	33 U.S.C. §403 33 U.S.C. §§404 (404 permit)	Structures in Navigable Waters/Work Affecting the Course, Location, Condition, or Physical Capacities of Navigable Waters requires Section 10 Permit. Nationwide Permit (NWP), Regional General Permit (RGP), or Individual Permit (IP) is required to dredge and fill or otherwise disturb wetland or stream areas. It is required prior to the disturbance of any wetland or stream areas. Complete a significant nexus evaluation for isolated waters/upland ditches.	1 day for NWP that has no Pre-Construction Notification (PCN) to 18 months for IP	USACE
Refuse Act of 1899	33 U.S.C. §407	It is unlawful to discharge or dispose of any refuse or pollutant into U.S. navigable waters or tributaries of the US.		EPA
Coastal Barrier & Zone Permitting	16 U.S.C.§§ 3501, 1451	Relates to coastal waters, shores, and areas near the coast. Refer to the State Coastal Management Plan for map of affected areas.		NOAA/State Agency
<i>Federal Wildlife</i>				

Task Name	Regulatory Citation	Background	Time Frame	Regulatory Agency
Informal Consultation with USFWS	-	Discuss potential project impacts to Threatened & Endangered Species/Migratory Birds/NWRs and seek approval of plans for data gathering and initial mitigation measure plans.		USFWS
U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines	expires 11/20/2021	Tier 1 preliminary site evaluation, Tier 2 site characterization, Tier 3 field studies to document site wildlife and habitat and predict project impacts, Tier 3 post-construction studies to estimate impacts, Tier 5 other post-construction studies, bmps, mitigation, and advancing use, cooperation, and effective	multi-year process	USFWS
Threatened & Endangered (T & E) Species and Habitat Surveys	16 U.S.C. §§ 1531 et seq.	Before the issuance of a federal permit, the permittee must receive clearance for potential impacts on endangered or threatened species. Habitat Survey could lead to a Biological Assessment (BA) or Biological Evaluation (BE).		USFWS
Section 7 Interagency Formal Consultation - T & E Species Impacts Review	16 U.S.C. §§ 1531 et seq.	Submit to and discuss findings with USFWS. USFWS prepares a biological opinion (BO) about the proposed project, whether the species will likely be affected, and whether the proposed project activity will jeopardize the continued existence of a listed species.	90 days	USFWS
Section 10 T & E Habitat Conservation Plan (HCP) and Incidental Take Permit (ITP)		May be required if an activity results in the direct take, result in the capture or handling, or significantly modify the behavior of a listed species. Will include mitigation.	15 months to 4 years	USFWS
Avian Preconstruction Survey	16 U.S.C. §§703-712	It is unlawful to take or otherwise affect a migratory bird or its egg or nest. Desktop review and pre-construction avian field survey necessary. USFWS typically requests 2 years of pre-construction avian surveys but is often willing to accept one year preconstruction with follow up post-construction monitoring. Evaluation of habitat. Adhere to the 2012 USFWS Land Based Wind Energy Guidelines.		USFWS
Bird and Bat Conservation Strategy (BBCS)	16 U.S.C. §§703-712	Prepare plan for operations. Nearly 1,000 species of birds and bats are protected under the Migratory Bird Treaty Act (MBTA), Endangered Species Act (ESA), and local State regulations. Take of these bird and bat species, whether direct or incidental, is prohibited. Creation of a BBCS required if impacts to avian and bat resources are unavoidable.		USFWS
Bald and Golden Eagle Take Permit	16 U.S.C. §§ 668-668(d)	The knowing or wanton taking (which includes wounding or <i>disturbing</i>) of a bald or golden eagle is a criminal offense. Protection of these species may be addressed in Eagle Conservation Plan (ECP), APP, or BBCS.		USFWS
Eagle Conservation Plan (ECP)	16 U.S.C. 668-668d	Bald and golden eagles are protected under the Bald and Golden Protection Act and the Lacey Act. Take of this species would require a permit.		USFWS
<i>Federal Stormwater and Water Quality</i>				
SPCC Plan: Construction	40 CFR 112	SPCC required for total capacity of ASTs greater than 1,320 gal and with a reasonable likelihood of impacting water bodies. Likely not needed until construction.	15 days	EPA
SPCC Plan: Operations	40 CFR 112	Spill plan for areas in which large fuel tanks may be used. A separate plan will likely be needed for operations.	15 days	EPA
Stormwater Permit: Construction	40 CFR 122.26	A permit is required for any construction activities that disturb an area greater than 5 acres. Notice of Intent must be submitted prior to construction activities. State agency may be the authorized and EPA delegated authority for this program.		EPA
Stormwater Pollution Prevention Plan: Construction	40 CFR 122.44	A plan to address stormwater impacts resulting from construction activities must be prepared. Coverage under NPDES General Permit is required, The plan must be developed prior to the submission of the related NOI. State agency may be the authorized and EPA delegated authority for		EPA
Stormwater Permit: Operations	40 CFR 122.26	Operational stormwater discharges authorized under NPDES General permit for industrial facilities, NOI must be submitted prior to the conversion from construction phase to full operation phase. State agency may be the authorized and EPA delegated authority for this program.		EPA
Stormwater Pollution Prevention Plan: Operations	40 CFR 122.44	This plan is to address stormwater impacts resulting from facility operations. It must be developed and implemented, kept on site, and updated periodically. It must be developed and implemented prior to submission of the related NOI. State agency may be the authorized and EPA delegated authority for this program.		EPA

Task Name	Regulatory Citation	Background	Time Frame	Regulatory Agency
NPDES Permit	33 U.S.C. §301	A discharge permit for direct, non-stormwater (i.e., process) discharges to waters of the state must be secured. It is required to be issued before discharges commence. State agency may be the authorized and EPA delegated authority for this program.		EPA
Publicly Owned Treatment Works Permit	33 U.S.C. §§1281, 1381	Discharge of industrial effluents to POTW requires compliance with local pretreatment plans. State agency may be the authorized and EPA delegated authority for this program.		EPA
Safe Drinking Water Act	42 U.S.C. §§ 300, 40 CFR Parts 142-143 (SDWA)	Compliance with the SDWA is required for facilities where drinking water is obtained through an onsite well, or where it is obtained from a municipal source but is further treated before being provided to workers. Compliance consists of monitoring, recordkeeping, reporting, and certain equipment and maintenance requirements. State agency may be the authorized and EPA delegated		EPA
<i>Federal Air</i>				
New Source Performance Standards	40 CFR Part 60, Subparts IIII and JJJJ.	The only air emission sources potentially subject to a New Source Performance Standard (NSPS) would be any stationary compression ignition or spark ignition internal combustion engine for normal or emergency operations. State agency may be the authorized and EPA delegated authority for this		EPA
National Emission Standards for Hazardous Air Pollutants [Maximum Achievable Control Technology (MACT)]	40 CFR Part 63 Subpart ZZZZ	The only air emission sources potentially subject to a National Emission Standard for hazardous Air Pollutants (NESHAP) would be any new stationary reciprocating internal combustion engine (RICE) for normal or emergency operations. State agency may be the authorized and EPA delegated authority for this program.		EPA
<i>Federal Cultural Resources</i>				
Review of National Register of Historic Places and State Databases	16 U.S.C. §470	Projects receiving federal permits must receive clearance from the applicable state historical preservation body. Review literature and request concurrence from State Historic Preservation Office (SHPO)/Tribal Historic Preservation Office (THPO) if no impacts anticipated.	1 day	NPS/SHPO/THPO
On-site (Phase II) Cultural Resources Survey	16 U.S.C. §470	Complete on-site survey if impacts are possible. Avoid impacts or mitigate as necessary. Request concurrence from SHPO/THPO.	3 - 4 weeks	NPS/SHPO/THPO
<i>Federal Floodplain</i>				
Flood Zone Map Review	44 CFR 60.2	Certain requirements may exist for facilities located within a 100-year floodplain where there is a floodplain management district. Floodplain development permit or notification may be required if construction occurs in the floodplain.		FEMA
Hydraulics and Hydrology Study for unavoidable floodplain impacts	44 CFR 60.2			FEMA
Development of Conditional Letter of Map Revision	44 CFR 60.2			FEMA
Submittal of Certification of No Net Rise or Conditional Letter of Map	44 CFR 60.2			FEMA
Receipt of Concurrence of No Net Rise or Letter of Map Revision	44 CFR 60.2			FEMA
<i>Federal Other</i>				
FAA Determination	14 CFR 77	A project located within 20,000 feet of a public airport and/or which contains elements with an elevation of 200 feet above the ground level (such as cranes or communication towers) must receive clearance from the Federal Aviation Administration (FAA).	1 day	FAA
FAA Notice of Proposed Construction or Alteration Application (Form 7460-1)	14 CFR 77	A Notice of Proposed Construction or Alteration (FAA Form 7460-1) must be filed for each turbine or meteorological tower in order to obtain FAA Determination of No Hazard to Air Navigation.		FAA
FAA Form 7460-2 Part II	-	FAA Form 7460-2 Part II must be submitted for each turbine within 5 days of reaching their greatest		FAA
Microwave Line of Sight Transmission Paths Analysis	-	Potentially a concern for any tall structures associated with project, such as communications equipment or CSP towers.		FCC
NEXRAD and other Radar Proximity Interference Analysis	-	Review project plans for NOAA, DOD, FAA for possible interference with their operations.		DOD, NOAA, FAA
Self Certification Notice for Exempt Wholesale Generators	18 CFR 366.7(a)	A facility must register with the Federal Energy Regulatory Commission (FERC) to sell power.		FERC
Use and occupancy agreement - utility crossing federal highway	23 CFR 645			DOT
Coordination with NRCS	-	Review for prior converted wetlands, farmed wetlands, agricultural exemptions, conservation easements, important farm lands.		USACE, NRCS

Task Name	Regulatory Citation	Background	Time Frame	Regulatory Agency
Seismic Requirements	40 CFR 264, 18 CFR 380	State and federal regulations restrict the siting of liquefied natural gas facilities and hazardous waste treatment, storage, and disposal facilities		EPA
EPA Noise Standards	42 U.S.C. §7641	EPA's noise regulations apply to specific sources and do not provide a uniform level of exposure for all facilities.		EPA
<i>Sites on or Near Public or Tribal Lands</i>				
Consultation w/ Federal Land Owners - BLM, NPS, USFS, etc.		Consult with appropriate agencies if project on or near federal land		BLM, NPS, USFS, etc.
Consultation w/ State/Tribal Land Owners if on or near project		Consult with appropriate agencies if project on or near state/tribal land.		State or Tribal agency
Forest Service Organic Legislation	16 U.S.C. §§473 et seq.	Restricts the use of land, water, timber and stone found in national forests, as well as construction.		USFS
National Wildlife Refuge Lands	16 U.S.C. §668d	Restricts disturbance of any property, including natural growth, on National Wildlife Refuge System lands. Evaluate whether project will involve these lands.		USFWS
Taylor Grazing Act	43 U.S.C. §315 et. seq.	Grazing districts may be established from certain lands within the public domain. Restrictions then apply to their use.		BLM, NPS
Wilderness Act	16 U.S.C. §1131	The National Wilderness Preservation System protects designated wilderness areas.		FS, BLM, USFWS, NPS
Wild and Scenic Rivers Act	16 U.S.C. §1271	The national wild and scenic rivers system is designed to protect identified rivers. Identify if protected rivers are in project area.		FS, BLM, USFWS, NPS
Land Reclamation Plan		Determine if needed.		FS, BLM, USFWS, NPS
Land Reclamation Annual Report		Determine if needed.		FS, BLM, USFWS, NPS

Duke Energy Kentucky
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AG-DR-02-015

REQUEST:

Explain whether DEK agrees that environmental curtailments can reduce a wind generation facility's return on investment, thus increasing the levelized cost of energy and serving as a potential market barrier to entry for wind power.

RESPONSE:

Wind generating facilities are designed to mitigate curtailment, weather events, and to comply with applicable federal regulations as well as local ordinances (i.e. shadow flicker or sound requirements). As such, these factors are considered in a generating facility's production profile and incorporated into the productions estimates of such a facility.

PERSON RESPONSIBLE: Matt Ruscio

Duke Energy Kentucky
Case No. 2021-00245
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Date Received: November 18, 2021

AG-DR-02-016

REQUEST:

Explain whether DEK has conducted any research regarding the proximity of the counties comprising its service territory (as well as any other counties within which wind generation facilities could be built, whether self-owned or whether DEK procures such power via a PPA) to any known bird and bat migratory routes.

RESPONSE:

Duke Energy Kentucky has not conducted research regarding proximity of its service territory to any known bird and bat migratory routes. However, as outlined in the 2012 U. S. Fish and Wildlife Service Land-Based Wind Energy Guidelines, Eagle Conservation Plan Guidance, and coordination with USFWS and State Wildlife Resource Agencies, a variety of preconstruction avian, bat, eagle and other species of conservation concern are typically conducted as part of the development process.

PERSON RESPONSIBLE: Matt Ruscio

Duke Energy Kentucky
Case No. 2021-00245
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AG-DR-02-017

REQUEST:

Provide a discussion regarding the research that DEK affiliates that either own wind generation facilities, or procure power from wind generation facilities via a PPA, undertake to determine the proximity of the wind generation facilities to any known bird and bat migratory routes. Include in your response: (i) a description of any filings or reporting that the DEK affiliates were required to submit to USFWS and/or other regulatory agencies; and (ii) a copy of an actual “Bird & Bat Conservation Strategy,” as referenced in the response to AG-DR-1-12 (g).

RESPONSE:

No formal filings are required by the USFWS during the development phase, however, based on site characteristics and through coordination with USFWS and the State Wildlife Agency, various avian and bat studies are performed, and these study results are provided to these agencies. Following the completion of the development phase, a Bird & Bat Conservation Strategy (BBCS) is developed - typically after the project goes into operation. The project BBCS is an internal document that demonstrates adherence to the 2012 U. S. Fish and Wildlife Service Land-Based Wind Energy Guidelines and outlines all measures that will be employed to avoid, minimize and mitigate impacts to avian and bat resources.

PERSON RESPONSIBLE: Matt Ruscio

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-018

REQUEST:

Reference the response to AG-DR-1-20 (c), in which the Company stated it is participating in an EPRI Resource Adequacy study “. . . to advance analytic tools, processes, and metrics to ensure that reliability is not jeopardized as we pursue a transition to lower carbon resources.” Explain when the results of the study will be completed and provide a copy of any final report when issued.

RESPONSE:

Results of the study are expected in 2023 with the link to more information:

<https://www.epri.com/about/media-resources/press-release/6JUDrdMWGad3NOZIPj0JZm>

PERSON RESPONSIBLE: Scott Park

Duke Energy Kentucky
Case No. 2021-00245
Attorney General's Second Set Data Requests
Date Received: November 18, 2021

AG-DR-02-019

REQUEST:

Reference the response to AG-DR-1-24.

- a. Explain why the Company has not performed the described analysis.
- b. Explain the process(es) DEK utilizes and undertakes in deciding whether to modify or increase its DSM, DR and EE offerings.
- c. Confirm that despite the major changes that will affect the nation's electric generation fleet in the next few years, DEK has not undertaken any analyses of whether to modify or increase its DSM, DR and EE offerings.

RESPONSE:

The most recent comprehensive EE/DR Market Potential Study (MPS) completed specific to Duke Energy Kentucky was completed in 2013, however; the Company has completed studies in the Carolinas and Indiana in 2020 and 2021 which provides the Company with a comprehensive view of available EE and DR measures. The Company's annual DSM amendment filing incorporates this comprehensive measure and program design knowledge to ensure Duke Energy Kentucky continues to offer a robust and cost-effective suite of DSM offerings to customers. The Company performs EM&V on existing programs and reviews ongoing performance with the DSM Collaborative to inform the annual filing and plan for future offerings.

PERSON RESPONSIBLE: Brian Bak