COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF DUKE ENERGY KENTUCKY, INC. TO BECOME A FULL PARTICIPANT IN THE PJM INTERCONNECTION LLC, BASE RESIDUAL AND INCREMENTAL AUCTION CONSTRUCT FOR THE 2027/2028 DELIVERY YEAR AND FOR NECESSARY ACCOUNTING AND TARIFF CHANGES	)	Case No. 2024-00285

ATTORNEY GENERAL'S SUPPLEMENTAL DATA REQUESTS

The intervenor, the Attorney General of the Commonwealth of Kentucky, through his Office of Rate Intervention ["OAG"], hereby submits the following Supplemental Data Requests to Duke Energy Kentucky, Inc. ["DEK" or "the Company"], to be answered by the date specified in the Commission's Orders 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) Identify the witness who will be prepared to answer questions concerning each request.

(3) Repeat the question to which each response is intended to refer. The OAG can provide counsel for DEK with an electronic version of these questions in native format, upon request.

(4) These requests shall be deemed continuing so as to require further and supplemental responses if the Companies receive or generate 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, request clarification directly from Counsel for OAG.

(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, identify each variable contained in the printout which would not be self-evident to a person not familiar with the printout.

(9) If the Companies have objections to any request on the grounds that the requested information is proprietary in nature, or for any other reason, notify OAG 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 Companies, 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) Provide written responses, together with any and all exhibits pertaining thereto, in one or more bound electronic volumes, separately indexed and tabbed by each response, in compliance with Kentucky Public Service Commission Regulations and Orders.

(14) "And" and "or" should be considered to be both conjunctive and disjunctive, unless specifically stated otherwise.

(15) "Each" and "any" should be considered to be both singular and plural, unless specifically stated otherwise.

Respectfully submitted,

RUSSELL COLEMAN
ATTORNEY GENERAL

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Certificate of Service

Pursuant to the Commission's Orders in Case No. 2020-00085, and in accord with all other applicable law, Counsel certifies that an electronic copy of the forgoing was served and filed by e-mail to the parties of record.

This 1st day of November, 2024

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Assistant Attorney General

1. Provide a discussion of the benefits that DEK's FRR participation in PJM has provided to the Company. Provide also any quantifications relevant to your discussion.

2. If DEK should require more generation in the future:

    a. Explain the benefits and disadvantages of remaining an FRR entity, including all impacts on the Company and its customers.
    b. Explain the benefits and disadvantages of transitioning to an RPM entity, including all impacts on the Company and its customers.

3. Does DEK have any explanation or understanding on why so many LSEs are RPM participants as opposed to FRR? Please discuss.

4. Confirm that if an FRR LSE needs more capacity, they would not be able to obtain it through the PJM auction. Confirm also that an RPM member would be able to obtain the capacity through the PJM auction (assuming PJM has capacity available).

    a. In the event PJM does not have capacity available, would such an event mean that PJM's capacity market is essentially no longer viable?

5. Assume the following: (a) DEK is allowed to become an RPM participant; and (b) at some future date DEK needs additional capacity, but PJM is unable to provide it due to the capacity shortfall about which PJM has issued numerous warnings. Explain the options available to the Company for obtaining the additional capacity, other than self-built.

6. Refer to the Company's response to AG DR 1-1 (e).

    a. Refer to p. 5 of the attachment. When the presentation was provided on 2/13/2023, the Company's recommendation was to remain an FRR entity and reevaluate annually. What has changed in just one year, such that now the Company's reevaluation has led to a recommendation to transition to become an RPM entity?
    b. Page 5 of the attachment states, "Changing to the RPM construct costs ~$1.8M annually over the current FRR approach but avoids future potential costs of ~$16M to ~$32M for up to two years if DEK remains in FRR and decides to retire East Bend early or if has significant additional demand growth." Please explain each number and also provide the analysis, electronically, with all formulae intact that derived each number.
    c. Why might DEK even consider retiring East Bend if that would lead to higher market capacity prices in the DEOK zone for not only DEK Kentucky customers, but other Kentucky customers as well?

d. Refer to page 6 of the attachment, why is Reserve Margin a benefit to an FRR entity, and explain further the sentence "Net expected cost to move to RPM ~$1.8M/year."
e. Refer to page 6 of the attachment, and explain what Liquidity Differences mean and why that is a benefit to an RPM entity.
f. Refer to page 15 of the attachment, and explain more about the payments for capacity non-performance. Specifically, explain the calculation of the $3000 per deficient MW per performance event hour. Explain the Financial Penalty rate = Yearly Cone/30, and the Physical Penalty rate = 0.5/30. Explain what the 30 value refers to.
g. Refer to pg. 16 of the attachment. Provide additional details about the statement that the Commission would need approximately 1 year due to staffing issues. Explain in detail the Commission staffing issues that would require a year to address.

7. Refer to the Company's response to AG-DR-1-4d. The question that was posed requested information for 8 years. Please explain why the Company's response only supplied information for 5 years, and unless there is a reason the information is unavailable, please provide the information for the remaining period.

8. Refer to the Company's response to AG-DR-1-6 that included DEK's Initial FRR Plan for the 2025/2026 plan year.
   a. Please provide workpapers for the same table for the most recent 8 years. Provide the information electronically with all formulae intact.
   b. Provide a narrative explanation for the derivation of the FRR Committed (MW) – Load Obligation for each resource. Also, explain how the values in this column relates to the Company's load requirement.
   c. Provide the derivation of the FRR Committed (MW) – Add'l 3% Holdback. Also, explain why the value shown is associated with just the first generating unit in the table.
   d. Explain why the Company's excess position is tied to the first generating unit in the table, when in fact the Company's excess position would seem to be based on total load vs total capacity.

9. Refer to the Company's response to AG-DR-1-8.

   a. Provide the calculation that led to DEK stating the Company will have an additional 30 MW to offer into the BRA, which may have been a rounded value.
   b. Duke states it believes that becoming an RPM customer would have a nonconsequential impact on other Kentucky utility customers located in the PJM market. Putting aside for the moment the fact that as an RPM entity DEK would no longer have the holdback provision, which could have a beneficial impact resulting in lower market costs in the DEOK zone, what incentives as an RPM entity will DEK have to acquire or construct more capacity in the DEOK zone vs. relying on

the RPM auction to address capacity needs, which could have a detrimental impact resulting in higher market costs in the DEOK zone?

c. DEK states that at extremely high capacity prices, RPM entities hold a lower reserve margin than FRR entities. If extremely high capacity prices were to occur after DEK becomes an RPM entity, and because of that DEK's reserve margin obligation would be lower than it would be if DEK remained an FRR entity, how can DEK assert that becoming an RPM entity would have a nonconsequential impact on other Kentucky utility customers located in PJM?

10. Refer to DEK's response to AG DR 1-22 b, in which DEK states the risk to DEK of zonal separation is not changed dramatically from moving from FRR to RPM.

    a. Isn't it true DEK could benefit as an RPM entity compared to being an FRR entity if zonal separation were to occur with market prices driven up and when DEK was long, especially if DEK had bilateral contracts for resources located outside of the DEOK zone?
    b. Under this same situation as an FRR entity, isn't it true DEK would not be able to count the external resources as part of its FRR capacity plan?
    c. Under the set of circumstances described in part a. above, wouldn't this cause harm to other Kentucky utility customers located in PJM?
    d. In DEK's heat map analysis did DEP account for Bonus Performance Credits for resources in its FRR Capacity Plan that could benefit the next year's FRR Capacity Plan? If so, please state where the Company accounted for this in the heat map analysis, and if not, please explain why not.

11. Refer to the Company's response to AG-DR-1-20c.

    a. Please explain further about the minimum internal generation requirement, and what kind of change in the requirement is DEK most concerned about. In other words, is DEK concerned a change could be made that would require DEK to have more capacity internal to the DEOK zone, but if DEK purchases capacity outside the zone, that capacity would not count towards satisfying the minimum internal generation capacity requirement? Please provide a reference to proposed policy changes that could affect FRR entities in this regard.
    b. As an FRR entity, under what conditions would DEK decide to construct or acquire additional capacity specifically located within the DEOK zone? Also, same question, but under what conditions would DEK decide to construct or acquire additional, or replacement capacity located specifically within Kentucky?
    c. As an RPM entity, under what conditions would DEK decide to construct or acquire additional capacity specifically located within the DEOK zone? Also, same question, but under what conditions would DEK decide to construct or acquire additional, or replacement capacity located specifically within Kentucky?

12. Refer to the Company's response to AG-DR-1-22a.

    a. Identify the recently announced merchant generation and why DEK expects bilateral capacity in the DEOK zone to be scarce as a result.
    b. Please provide the Company's support for the statement, "With recent and announced merchant generation, bilateral capacity within the DEOK zone is likely to become scarce."

13. Refer to the Company's response to AG-DR-1-24.

    a. The Company states it believes capacity clearing prices will increase in the future. Please provide the Company's latest forecast for the RTO and the DEOK Clearing Price for the next 15 years.
    b. Does DEK's forecast account for new resources being acquired and PJM efforts to change PJM capacity rules that would result in lower market capacity prices occurring?

14. The objective of this question is to understand the alignment of the Company's reserve margin calculation used in an IRP analysis, and the FRR Capacity Plan it has to submit to PJM in the Table in AG-DR-1-7. Refer to the table showing the FRR Plan for the 2025/2026 period, and data provided in response to AG-DR-1-39.

    a. In the spreadsheet the Company provided in AG-DR-1-39, it appears the Company derived [redacted] MW as the Total firm capacity to use in a reserve margin calculation. For each unit in that calculation reconcile the differences in the values to the Nameplate UCAP column in the FRR plan shown in the table in the response to AG-DR-1-7, which sums to [redacted] MW.
    b. Why is the summer capacity load obligation [redacted] MWs in System Outputs used for IRP purposes, yet the DEK capacity load obligation used in the FRR plan is [redacted] MW.
    c. Explain why the Company would conduct an IRP and plan using different capacity values than what it used in its FRR Plan.

15. Refer to the response to AG-DR-1-41. Is it the case that the Miami Fort retirement by 2027 is the most significant reason for the Company desiring to become an RPM entity? Please explain.

16. Refer to the response to AG-DR-1-45 b. and c.

    a. Please describe further what the Longbranch load is, state what is the peak capacity of that load, what percent is that load of the total DEOK load, and what percent is that load of the total EKPC load?
    b. Please provide the calculation that determined the non-performance assessment due to Winter Storm Elliot was 1.2 MW.

17. Refer to the response to AG-DR-1-49.

    a. Provide the FRR plan for each year that shows the calculation of the capacity value of each resource on the table.
    b. Provide a workpaper showing the calculation of the Load obligation values.
    c. Explain why the load obligation value was so high in 2024/2025.

18. Refer to the response to AG-DR-1-53. Provide the same workpaper, but include a column for each of the past 8 years. DEK mentioned this has ranged from a low of 4% to a high of 45%.

19. This concerns all capacity requirements DEK is currently obligated to address regarding owned, contracted, or minimum capacity requirements for planning and/or operations purposes.

    a. Explain all requirements DEK is obligated to meet by PJM.
    b. Explain all requirements DEK is obligated to meet by Kentucky Statute.
    c. Explain all requirements DEK is obligated to meet by prior Commission Order.
    d. Has the Company conducted a reliability, LOLE study, to determine an optimal reserve margin to satisfy a 1 day in 10 year reliability target? If so, please provide.
    e. Explain any other capacity requirements or guidelines that may be appliable to DEK or Kentucky regulated electric utilities.

20. Refer to the Company's heatmap analysis provided in Attachment JDS-1.xlsx, "Simple Output" tab, and the language that states, "FRR penalty assumes that 75% of the FRR Plan Short-fall is purchased at a premium of 1.25 x BRA Clearing Price and remaining 25% FRR shortfall is subject to penalty due to lack of available generation in DEOK zone."

    a. Explain why the assumption was made 75% BRA and 25% penalty pricing.
    b. Confirm that this 75% BRA and 25% penalty pricing locks the relationship of the assumptions in a "lock step" fashion and assumes FRR penalties in all heat map sensitivity cases. Explain.
    c. Why does DEK assume FRR penalties are unavoidable in the FRR scenario?
    d. Explain if DEK could build or contract for new capacity at or below CONE under FRR.
    e. Explain why DEK did not consider an FRR case in which it would build or contract for new capacity at or below CONE as an FRR entity.

21. Refer to the response to AG-DR-01-24(a) wherein the Company states: "Thus, due to higher expected capacity prices, Duke Energy Kentucky is considering pursuing insurance to manage this non-compliance risk." Refer also to the response to AG-DR-01-24(b) wherein the Company states: Insurance may need to be purchased for two reasons, both (1) under RPM the physical option is not available, and (2) higher overall capacity prices make

the physical option available under FRR have less value. Even if Duke Energy Kentucky were to say in FRR, it may pursue capacity performance insurance."

a. Please state all of the ways non-compliance can cause greater harm under the FRR compared to the RPM option.
b. Please state all of the ways non-compliance can cause greater harm under the RPM compared to the FRR option.
c. Describe the factors that will influence the decision to purchase insurance and provide a decision tree that portrays how those factors affect the decision to purchase capacity performance insurance. Provide this explanation i) if the Company were to stay an FRR and ii) if the Company were to convert to RPM.
d. Provide an estimate or matrix of estimates of the cost of such insurance, and the scope and dollar limits of the coverage obtained for the cost: i) if the Company were to stay an FRR and ii) if the Company were to convert to RPM.
e. Identify the providers of such capacity performance insurance coverage, a description of the market for such insurance coverage, and the trigger(s) for payout if there is a non-compliance circumstance.
f. Provide an estimate of the benefits that would be paid out from such insurance, i) if the Company were to stay an FRR and ii if the Company were to convert to RPM.
g. If FRR non-compliance could result in greater harm, which provides an incentive to move to the RPM, would having insurance under the FRR eliminate the potential for harm and reduce the desire to move to the RPM?
h. Please explain this statement further. "Therefore, it is appropriate to assign all of the insurance premium against the savings from entering RPM, but it is appropriate to assign a portion of this insurance against the benefits shown in the "Heat Map." Explain the cost implications of doing this, and the magnitude of the change to the Heat Map results that would occur if this were done.

22. Refer to the response to AG-DR-01-58. Under the circumstance where the Company retires existing generation capacity, the cost of which is recovered through base rates, and replaces the capacity in the BRA/IA, the cost of which is recovered through the PSM rider, the Company agreed that "to the extent discoverable, if any double recovery occurred, the Company could reconcile that through Rider PSM." Provide a more detailed explanation as to how such a double recovery could occur and how it could be reconciled through Rider PSM.

23. Refer to the response to AG-DR-01-60 wherein the Company states that the volatility in BRA/IA costs is mitigated by having a supply portfolio that is relatively balanced against customer load, thus minimizing the exposure to BRA/IA capacity values. In the question, the Company was asked to "[E]xplain how the Company plans to mitigate the risk of the greater cost volatility from net capacity purchases in the BRA/IA that will be reflected in the PSM rider charges to customers. In your explanation, address whether there is value in limiting the net capacity purchases in some manner to limit the cost volatility on

customers." In its response, the Company stated that "In reality, the Company would either have a small, long capacity position or a small, short position."

a. While this answers the mitigation question and the Company's intent to minimize capacity purchases in the BRA/IA, please confirm the Company agrees that minimizing capacity purchases in the BRA/IA reduce cost volatility on customers.
b. In addition, confirm the Company would be agreeable to a condition that requires the Company to maintain a relatively "small" capacity position. If so, then provide a metric the Company believes is reasonable in order to limit the exposure to the volatility of the BRA/IA, such as 50 mW or 100 mW, and provide the Company's rationale and support for such a metric. If not, explain why the Company would not be agreeable to such a condition.

24. Refer to the response to AG-DR-01-61a. and b.

a. Confirm there are no bilateral capacity transaction costs included in the base revenue requirement. If this is not correct, then provide a corrected statement and provide the amount of expense included in the base revenue requirement and the support for your response, such as a schedule or workpaper from the Company's last base rate case.
b. Provide a list of all bilateral capacity purchases by supplier/contract and the mW, cost per mW, and total expense by supplier/contract for each month from January 2021 through the most recent month for which actual information is available.
c. Provide a response to AG-DR-01-61(c). No response has been provided. Note that the question includes all owned capacity costs and purchased capacity costs. It is not limited only to purchased capacity costs.