

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC Given that PJM is considering financial incentives for black-start
2_1 generating units, explain to what extent the Company's modeling took this
 into consideration with regard to dispatchable supply-side resources.

RESPONSE

Please refer to KPSC 1_18a. IRP modeling considers generic resource buildout. Black start services tend to be provided by specific resources. Therefore, the Company's modeling did not take into consideration black start functionality on generic generating units.

Witness: Thomas Haratym, CRA

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC Reference the response to AG-KIUC 1-21. Explain why KPCo would not
2_2 “[have] access to the transmission grid operated by PJM.”

RESPONSE

As stated in AG-KIUC 1-21, the IRP assumes Kentucky Power does have full access to the transmission grid operated by PJM.

Witness: Gregory J. Soller

Witness: Thomas Haratym, CRA

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC Reference the responses to AG-KIUC 1-14 and PSC 1-42. Confirm that
2_3 with regard to onshore wind, neither KPCo nor any other AEP affiliate
ascribe any transmission costs to such resources.

a. If not confirmed, provide a breakdown of both AEP transmission
system costs, and non-AEP transmission system costs.

RESPONSE

For the purposes of this IRP, the capital costs for onshore wind resources included a base amount of electrical interconnection costs to the transmission system. The Company also included an additional interconnection and network upgrade cost of \$18.9/kW as identified from the PJM report included as KPCO_R_JI_1_51_Attachment1.

Witness: Thomas Haratym, CRA

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC In the event the plan the Company eventually pursues includes either a
2_4 NGCC or gas-fired CT, provide a discussion regarding siting of such a
resource, including the access to any interstate gas transmission lines that
traverse the KPCo service territory.

a. Refer also to the response to PSC 1-46 (b). Explain whether the Company would consider purchasing or leasing land either at or near East Kentucky Power Cooperative's Smith generating station, which has close access to at least one gas transmission pipeline, and has existing electric transmission interconnections to the PJM grid. If the Company will not consider this, explain fully why not.

RESPONSE

The Company objects to this request on the grounds that it is overly broad, vague, and not reasonably calculated to the lead to the discovery of admissible evidence. Without waiving this objection, the Company states as follows:

The IRP does not make assumptions about the location of generic resources. The Preferred Plan's inclusion of a natural gas generating resource does not include an assumption about its location. The Company further states that, generally, when siting a new combustion turbine or combined cycle facility, the Company considers real estate availability, proximity, capacity and delivery pressure of existing or future fuel supply, water, electrical interconnection available and voltage, labor availability, site access by means of road, rail and barge, and many other criteria. None of these factors alone is necessarily a determining factor pertaining to whether a particular site is suitable for a gas fired turbine asset.

a) The Company has not made determinations about specific siting plans for a new, partially constructed, or existing NGCC or gas fired CT.

Witness: Brian K. West

Witness: Gregory J. Soller

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC Explain whether the AEP board of directors has any non-independent
2_5 member(s) representing investors holding a direct or indirect ownership
interest of less than 10% in AEP.

RESPONSE

The Company objects to this request on the ground that it is not reasonably calculated to lead to the discovery of admissible information in this case, nor relevant to any issues in the Company's 2022 Integrated Resource Plan under review in these proceedings.

Respondent: Counsel

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC Reference the response to PSC 1-39 (b). Confirm that transmission costs
2_6 were not included in the referenced “combination of factors.”

RESPONSE

Transmission interconnection and network upgrade costs for the CT and CC are the same on a per kilowatt basis and therefore were not part of the combination of factors driving the relative economic competitiveness of gas CT versus CC.

Witness: Thomas Haratym, CRA

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC 2_7 Refer to the response to AG-KIUC 1-6 wherein the Company states that “For PJM Delivery Years 2024/25 and 2025/26, the Company has bilateral contracts for capacity with a third party.

- a. Provide a description of the bilateral contracts, including, but not limited to, the capacity pursuant to each bilateral contract, the cost for that capacity, dispatch rights, energy pricing.
- b. Indicate when each bilateral contract was entered into.
- c. Describe the effects of the bilateral contracts on the Company’s IRP, if any. If none, then explain why there are no effects.
- d. Explain whether the decision to enter into the bilateral contracts was made as part of an RFP process. If so, provide a narrative description of that process, and provide a copy of the actual RFP and all responses thereto.

RESPONSE

a. and b. Please see KPCO_R_AG-KIUC_2_7_ConfidentialAttachment1 for the requested information.

c. PJM Delivery Years 2024/25 and 2025/26 short term market purchases were made to support insuring Kentucky Power's FRR plan had sufficient resources to file a plan compliant with PJM requirements. These market purchases were included in the Company's going in assumptions for this IRP.

d. Due to the forecasted position of Kentucky Power in PJM Delivery Year 2024/25 and subsequently PJM Delivery Years 2025/26 short term market solicitations were made for 80 and 85 MW, respectively. Solicitations were requested via the Kentucky Power website and direct communication with potential suppliers. Please see KPCO_R_AG-KIUC_2_7_ConfidentialAttachment2 for the requested information.

Witness: Brian K. West (subparts a, b, and d)

Witness: Gregory J. Soller (subpart c)

KPCO_R_AG-KIUC_2_7_PublicAttachment1 has been redacted in its entirety.

Kentucky Power Company
Kpsc Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023
Page 1 of 2

DATA REQUEST

AG-KIUC 2_8 Refer to the response to AG-KIUC 1-9, which describes the Company's modeling approach.

- a. Provide a response to the question that was asked with respect to different typical revenue requirement profiles for owned solar compared to PPA solar.
- b. Confirm that owned solar requires capital expenditures by the Company for the non- transmission assets.
- c. Confirm that PPA solar does not require capital expenditures by the Company for the non-transmission assets owned by the third party.
- d. Confirm that GAAP accounting applicable to owned solar precludes so-called phase- in plans for a rate regulated utility whereby the capital cost recovery cannot be backloaded, i.e., levelized. If the Company disagrees and believes that such a result could be achieved for new generating resources, then provide all authoritative support for this position.

RESPONSE

a. An owned solar asset with a 35 year life may or may not have a declining revenue requirement. Whether or not the revenue requirement declines may depend on if ITCs or PTCs are selected for the project. It would be premature with the information currently available to make assumptions about what might produce the lowest customer cost for the project in question.

In the Company's experience, a PPA would likely have either a levelized price or an escalating price. There may be situations or projects in which the cost of an owned solar asset would be lower than a PPA for the same asset in total over the first 10 years of operation due to the large accumulated deferred income tax rate base offset from 5-year MACRS tax depreciation and the grossed up PTC benefits.

A typical PPA will be for less than 35 years such that the resource's capacity and energy will need to be replaced at potentially significant incremental cost.

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023
Page 2 of 2

A proper comparison of owned solar and PPA solar resources must be over 35 year period. During the period between the end of the PPA and year 35, the owned asset's rate base and cost of service will have been reduced as the asset has depreciated over its lifetime.

b. Confirmed, however the capital cost of an owned asset is only one element of the cost of owned resources. Owned solar assets receive tax credits and they qualify for 5-year MACRS tax depreciation, both of which substantially offset the capital cost in customer cost of service.

c. Confirmed, see response to part b.

d. Confirmed. The Company models the cost of owned resources on a levelized basis in real\$ terms for modeling efficiency. The goal of IRP modeling is to produce resource plans which solve for the lowest net present value of long term cost of service. The use of levelized carrying costs in the modeling will produce net present value results that are similar to if the modeling had been performed on a declining rate base methodology.

Witness: Gregory J. Soller (subparts b-d)

Witness: Alex E. Vaughan (subpart a)

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC 2_9 Refer to the response to AG-KIUC 1-17, which asks for information regarding affiliates of Kentucky Power that have developed or may develop solar, wind, and/or other renewable electric generation resources. The response acknowledged that there are such affiliates, but failed to identify the affiliates and failed to provide any of the other information requested. Provide a complete response to the request, assuming that the term “unregulated renewable generation business” refers to an affiliate that is not rate regulated by a federal or state regulator and that the term “regulated utilities” refers to the AEP operating utilities and other rate regulated utilities with which Company affiliates have or may have entered into PPAs for the sale and purchase of generation from renewable resources.

RESPONSE

The Company incorporates its objection to AG-KIUC 1_17 by reference. The Company further objects to this request on the grounds that it is not reasonably calculated to lead to the discovery of admissible evidence in this case. Without waiving its objections, the Company states as follows:

Currently Kentucky Power does not have a PPA or other form of agreement with an “unregulated renewable generation business” affiliate, as described in the question, to acquire renewable electric generation resources or their output.

Witness: Brian K. West

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC 2_10 Refer to the attachment to the response to AG-KIUC 1-23.

- a. Provide the ADIT balances and the remaining undepreciated tax basis for each Mitchell unit at the end of each year shown on this schedule. In addition, provide the assumption with respect to the write-off of the remaining tax basis of each Mitchell unit at the end of 2028.
- b. Provide the calculations used to quantify rate base at the end of each year as shown on this schedule by component (gross plant, accumulated depreciation, accumulated depreciation, materials and supplies, fuel, etc.).
- c. Indicate whether property tax expense is included in the FOM or anywhere else on this schedule. If not, then explain why it is not. In any event, provide the property tax expense for each Mitchell unit for each year through 2042, consistent with the study period on this schedule.
- d. Provide the calculations of the capital charges for each generating unit for each year shown on this schedule in live Excel format with all formulas intact. If the calculations are based on a capital charge as opposed to the sum of various costs, then provide the calculation of the capital charge rate in live Excel format with all formulas intact.

RESPONSE

- a. For the IRP, the remaining tax basis of each Mitchell unit was retained and continued to depreciate in the financial analysis as shown in KPCO_R_AG_KIUC_2_10_Attachment1.
- b. Please see KPCO_R_AG_KIUC_2_10_Attachment1
- c. Property tax was not included in the original attachment. Please see the updated version with property tax included in file KPCO_R_AG_KIUC_2_10_Attachment1
- d. Please see KPCO_R_AG_KIUC_2_10_Attachment1

Witness: Thomas Haratym, CRA

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

**AG-KIUC
2_11** Refer to the response to AG-KIUC 1-25. Is the addition of the 50 mW storage resource in the Company's preferred plan economic on an incremental basis, meaning does it increase the cumulative net present value of the Company's preferred portfolio compared to the preferred portfolio with the storage resource, all else equal. Provide all analyses, including assumptions, calculations, modeling results, and all other support developed or relied on to respond to this request.

RESPONSE

The referenced analysis was not performed. The 50 MW battery addition in 2035 reflects the outcome from the optimized CC Portfolio.

Witness: Gregory J. Soller

Witness: Thomas Haratym, CRA

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023

DATA REQUEST

AG-KIUC Refer to the response to AG-KIUC 1-38, which states:
2_12

Indicate which new capacity resources and the MW capacity for each such resource identified in both the Reference portfolio and the Preferred Plan portfolio will be acquired specifically to replace the Mitchell Plant capacity. Indicate each such resource the Company considers to be “dispatchable” and provide the criteria used to make this determination. Provide all support for your response.

The Company’s response failed to identify the resources that will be acquired specifically to replace the Mitchell capacity, identify each such resource the Company considers to be “dispatchable,” and provide the criteria used to make this determination. Provide a response to these specific requests or explain why the Company is unable to do so.

RESPONSE

The modeling does not select specific resources to replace other specific resources. Rather, the modeling solves to ensure Kentucky Power's forecasted capacity needs are met using a combination of resources based on economics. The capacity from all new resources identified in the Portfolios collectively achieve the accredited capacity required to meet the Company's needs including its PJM Coincident Summer peak capacity obligation.

In this IRP, dispatchable resources were quantified as discussed in section 7.2.3 of the IRP Report, beginning on page 149 of 1182. These resources include existing coal units, new and existing gas peaking units, new gas combined cycle units, new energy storage units and new hydrogen-fired units.

Witness: Thomas Haratym, CRA

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023
Page 1 of 2

DATA REQUEST

AG-KIUC Refer to the Section 7.2.2.3 of the IRP at 148-149, wherein the Company addresses the net purchases or sales resulting from its plans, and Section **2_13** 7.3 of the IRP at 155, wherein the Company addresses the performance of seven portfolios over five PJM market scenarios.

a. Provide separately and on a net basis the purchases in mWh and dollars made in excess of the Company's generation to meet the Company's load and sales in mWh dollars from the Company's generation in excess of the Company's load by month and in total for each calendar year in the study period for each of the seven portfolios under each of the five PJM market scenarios. In addition, provide the net margins in dollars on the sales from the Company's generation in excess of the Company's load by month and in total for each calendar year in the study period for each of the seven portfolios under each of the five PJM market scenarios. Provide these results in live Excel format with all formulas intact.

b. Provide the weighted average cost of purchases per mWh and the weighted average selling price per mWh for the sales provided in response to part (a) of this question by month and annually for each calendar year in the study period for each of the seven portfolios under each of the five PJM market scenarios. Provide these results in live Excel format with all formulas intact.

c. Provide the Company's generation in mWh by generating resource, summed for each resource type, and summed for all resources for each month and in total for each calendar year in the study period for each of the seven portfolios under each of the five PJM market scenarios. Provide these results in live Excel format with all formulas intact.

d. Provide the Company's native load requirements in mWh for each month and in total for each calendar year in the study period for each of the seven portfolios under each of the five PJM market scenarios. Provide these results in live Excel format with all formulas intact.

e. Provide the annual and cumulative revenue requirements split between non-fuel and fuel/purchased power expense for each of the seven portfolios under each of the five PJM market scenarios on a nominal dollar and present value dollar basis.

Kentucky Power Company
KPSC Case No. 2023-00092
AG-KIUC's Second Set of Data Requests
Dated July 24, 2023
Page 2 of 2

RESPONSE

a.-d. Please see file KPCO_R_AG_KIUC_2_13_ConfidentialAttachment1.

e. The requested analysis has not been performed.

Witness: Thomas Haratym, CRA



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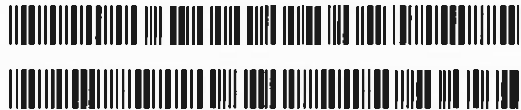
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E-Signature 1: Tomasz Haratym (TH)
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 THaratym@crai.com (Principal) (Personally Known)

E-Signature Notary: Marilyn Michelle Caldwell (MMC)
 September 07, 2023 06:56:02 -8:00 [D37D679763F9] [167.239.221.101]
 mmcaldwell@aep.com
 I, Marilyn Michelle Caldwell, did witness the participants named above electronically sign this document.



VERIFICATION

The undersigned, Tomasz J. Haratym, being duly sworn, deposes and says he is the Associate Principal, for Charles River Associates, that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of his information, knowledge, and belief.

Tomasz Haratym

Tomasz J. Haratym

Commonwealth of Kentucky)
County of Boyd)

Case No. 2023-00092

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Tomasz J. Haratym, on September 7, 2023.

Notary Public

Marilyn Caldwell

MARILYN MICHELLE CALDWELL
ONLINE NOTARY PUBLIC
STATE AT LARGE KENTUCKY
Commission # KYNP71841
My Commission Expires May 05, 2027

Notarial act performed by audio-visual communication

My Commission Expires May 5, 2027

Notary ID Number KYNP71841

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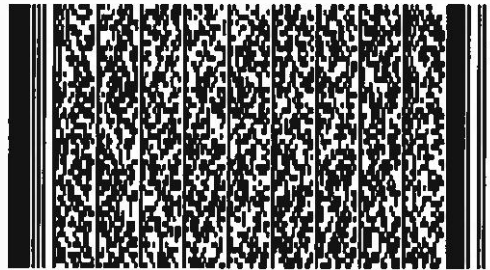
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E-Signature 1: Gregory J. Soller (GJS)
 August 31, 2023 08:15:45 -8:00 [36816C35689F] [167.239.221.106]
 gsoller@aep.com (Principal) (Personally Known)

E-Signature Notary: Marilyn Michelle Caldwell (MMC)
 August 31, 2023 08:15:45-8:00 [C5DFC300B166] [167.239.221.101]
 mmcaldwell@aep.com
 I, Marilyn Michelle Caldwell, did witness the participants named above electronically sign this document.



VERIFICATION

The undersigned, Alex E. Vaughan, being duly sworn, deposes and says he is the Managing Director for Renewables and Fuel Strategy for American Electric Power Service Corporation, that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of his information, knowledge, and belief.



 Alex E. Vaughan

State of Ohio ~~State of Kentucky~~)
)
 Franklin County) Case No. 2023-00092

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Alex E. Vaughan, on 8/30/23.



 Notary Public



Paul D. Flory
 Attorney At Law
 Notary Public, State of Ohio
 My commission has no expiration date
 Sec. 147.03R, C.

My Commission Expires Never

Notary ID Number NA 20

VERIFICATION

The undersigned, Brian K. West, being duly sworn, deposes and says he is the Vice President, Regulatory & Finance for Kentucky Power, that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of his information, knowledge, and belief.



Brian K. West

Commonwealth of Kentucky)
)
County of Boyd)

Case No. 2023-00092

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Brian K. West, on August 31, 2023.


Notary Public

My Commission Expires May 5, 2027

NotaryID Number KYNP71841