

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**2022 INTEGRATED RESOURCE PLAN OF EAST  
KENTUCKY POWER COOPERATIVE, INC.**

**) CASE NO.  
) 2022-00098**

**RESPONSES TO JOINT INTERVENORS REQUEST FOR INFORMATION TO  
EAST KENTUCKY POWER COOPERATIVE, INC.**

**DATED JUNE 30, 2022**

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

2022 INTEGRATED RESOURCE PLAN OF EAST ) CASE NO.  
KENTUCKY POWER COOPERATIVE, INC. ) 2022-00098

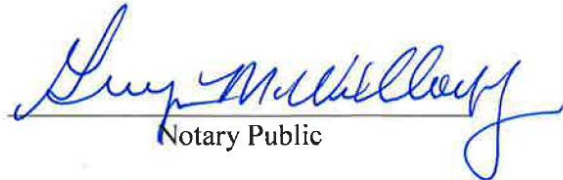
CERTIFICATE

STATE OF KENTUCKY )  
 )  
COUNTY OF CLARK )

Darrin Adams, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Kentuckians for the Commonwealth, Kentucky Solar Energy Society, and Mountain Association Initial Data Requests in the above-referenced case dated June 30, 2022, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.



Subscribed and sworn before me on this 18th day of July, 2022.

  
Notary Public

GWYN M. WILLOUGHBY  
Notary Public  
Commonwealth of Kentucky  
Commission Number KYNP38003  
My Commission Expires Nov 30, 2025

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

2022 INTEGRATED RESOURCE PLAN OF EAST ) CASE NO.  
KENTUCKY POWER COOPERATIVE, INC. ) 2022-00098

CERTIFICATE

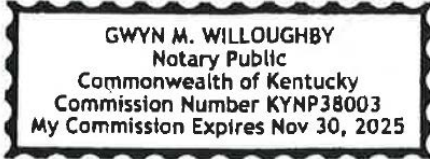
STATE OF KENTUCKY )  
)  
COUNTY OF CLARK )

Michelle K. Carpenter, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Kentuckians for the Commonwealth, Kentucky Solar Energy Society, and Mountain Association Initial Data Requests in the above-referenced case dated June 30, 2022, and that the matters and things set forth therein are true and accurate to the best of her knowledge, information and belief, formed after reasonable inquiry.

*Michelle K. Carpenter*

Subscribed and sworn before me on this 18th day of July, 2022.

*Gwyn Willoughby*  
Notary Public



**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**2022 INTEGRATED RESOURCE PLAN OF EAST                    )    CASE NO.**  
**KENTUCKY POWER COOPERATIVE, INC.                        )    2022-00098**

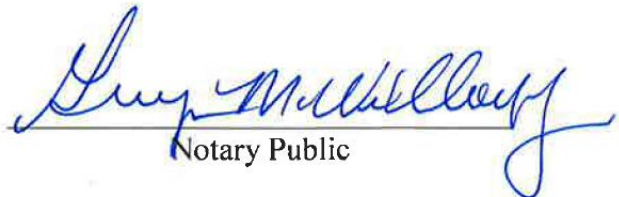
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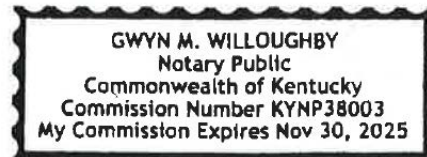
**STATE OF KENTUCKY    )**  
**)**  
**COUNTY OF CLARK     )**

Scott Drake, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Kentuckians for the Commonwealth, Kentucky Solar Energy Society, and Mountain Association Initial Data Requests in the above-referenced case dated June 30, 2022, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

  
\_\_\_\_\_

Subscribed and sworn before me on this 18th day of July, 2022.

  
\_\_\_\_\_  
Notary Public













**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**2022 INTEGRATED RESOURCE PLAN OF EAST                    ) CASE NO.**  
**KENTUCKY POWER COOPERATIVE, INC.                    ) 2022-00098**

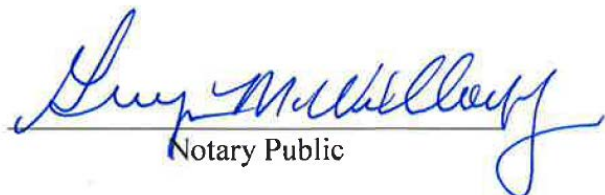
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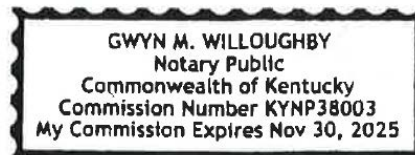
**STATE OF KENTUCKY    )**  
**)**  
**COUNTY OF CLARK     )**

Julia J. Tucker, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Kentuckians for the Commonwealth, Kentucky Solar Energy Society, and Mountain Association Initial Data Requests in the above-referenced case dated June 30, 2022, and that the matters and things set forth therein are true and accurate to the best of her knowledge, information and belief, formed after reasonable inquiry.

  
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Subscribed and sworn before me on this 21<sup>st</sup> day of July, 2022.

  
\_\_\_\_\_  
Notary Public





**EAST KENTUCKY POWER COOPERATIVE, INC.  
PSC CASE NO. 2022-00098  
INITIAL REQUEST FOR INFORMATION RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 1**

**RESPONSIBLE PERSON:            Julia Tucker**

**Request 1.**            Please provide, in spreadsheet format with formulas intact, the workpapers (including input and output files) supporting EKPC's energy requirements and peak forecasts.

**Response 1.**            Please see attached files.

**EAST KENTUCKY POWER COOPERATIVE, INC.  
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INITIAL REQUEST FOR INFORMATION RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 2**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 2.** At page 27 of IRP Vol. 1, in response to a PSC Staff Recommendation that EKPC “conduct additional sensitivity analyses to investigate alternate variations in input assumptions”, EKPC states that it hired Guidehouse to prepare several carbon price forecasts. Please explain how those carbon price forecasts related to the Staff’s recommendations on load forecasting.

**Response 2.** The carbon forecasts were utilized to develop DSM program analyses. DSM programs directly impact the load forecast.

**EAST KENTUCKY POWER COOPERATIVE, INC.  
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INITIAL REQUEST FOR INFORMATION RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 3**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 3.** At page 160 of IRP Vol. 1 (pdf190), EKPC states: “This forecast was approved by the EKPC Board of Directors in December, 2020, and was approved by the Rural Utilities Service (‘RUS’).”

At page 1 of the Technical Appendix, Section 1.0, EKPC states “EKPC’s ‘2021-2035 Load Forecast’ was prepared pursuant to its Work Plan, which was approved by both EKPC’s Board of Directors and by RUS in December 2019.”

**Request 3a.** Please clarify the month and year in which the EKPC Board of Directors approved the load forecast used in the IRP.

**Response 3a.** The EKPC Board of Directors approved the load forecast in December 2020.

**Request 3b.** Please provide a copy of EKPC’s most recent RUS-approved Work Plan.

**Response 3b.** Please see attached PDF *Joint Intervenor Response 3 - 2023-2037  
Load Forecast Work Plan.pdf*.

**EAST KENTUCKY POWER COOPERATIVE, INC.**  
**PSC CASE NO. 2022-00098**  
**INITIAL REQUEST FOR INFORMATION RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022**  
**REQUEST 4**

**RESPONSIBLE PERSON:**           **Julia Tucker**

**Request 4.**           Refer to page 1 of the Technical Appendix – Load Forecast, which states “IHS Global Insight, Inc. (‘IHS’) released an updated outlook in June 2020.”

**Request 4a.**           On the same page, EKPC states: “Factors considered in preparing the forecast include national, regional, and local economic performance, population and housing trends, service area industrial development, electric price, household income, appliance saturations and efficiencies, demand-side management programs, and weather.” Please identify which among the listed factors considered in preparing the load forecast is sourced from IHS's June 2020 outlook.

**Response 4a.**           Regional projections of GDP, population, households, employment, and real personal income.

**Request 4b.**           To the extent of your knowledge, has IHS updated its outlook since June 2020? If so, please list the month and year of each such updated outlook.

**Response 4b.** IHS updates its economic outlook periodically throughout the year.  
The most recent outlook was released in July 2022.



**EAST KENTUCKY POWER COOPERATIVE, INC.  
PSC CASE NO. 2022-00098  
INITIAL REQUEST FOR INFORMATION RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 5**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 5.** Refer to page 2 of the Technical Appendix – Load Forecast, which states: “Having actual energy for most of 2020, energy for 2020 was estimated outside of the construct of the model using insights from the owner-members and analysis of recent impacts due to COVID-19. To prevent skewing the growth rates, 2020 has been excluded from the calculations.”

**Request 5a.** Did you perform any load forecast calculations that included calendar year 2020 forecast or actual data? If so, please provide the results of that analysis.

**Response 5a.** EKPC forecasts RUS-classified consumers and energy sales based on finalized calendar year reports to RUS. Because the load forecast was prepared in mid-2020, class-level data for 2020 was only partially available. In an effort to incorporate any change in energy usage due to COVID-19, the 2021-2035 load forecast

estimates 2020 consumers and energy based on insight from owner-members and analysis of COVID-19 impacts.

**Request 5b.** Please quantify, to the best of your ability, the degree to which including 2020 data would “skew” the load forecast.

**Response 5b.** Class-level data for part of 2020 is estimated, not excluded. The growth rate calculations, not the load forecast, are calculated beginning in 2021 rather than 2020.

**Request 5c.** Please clarify if the decision to exclude the 2020 load data from the load forecast was made internally by EKPC or as part of the larger RUS load forecast development process.

**Response 5c.** Class level data for part of 2020 is estimated, not excluded. A partial year of 2020 data is included in the forecast.

**Request 5d.** Has EKPC ever taken the decision to remove a complete year of data from its load forecasting sample in the past? For example, the years associated with the Great Recession, the Polar Vortex, or years containing similar events.

**Response 5d.** The load forecast was prepared in 2020. An entire year was not removed from the data; instead several months of the incomplete calendar year for 2020 are estimated and included in the load forecast. Neither the “Great Recession” nor the Polar Vortex resulted in a global pandemic and prolonged state of emergency within the Commonwealth of Kentucky.

**EAST KENTUCKY POWER COOPERATIVE, INC.  
PSC CASE NO. 2022-00098  
INITIAL REQUEST FOR INFORMATION RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 6**

**RESPONSIBLE PERSON:            Julia Tucker**

**Request 6.**            Please provide load forecasts developed after December 2020, if any.

**Response 6.**            No new load forecast was developed after December 2020. However, EKPC did update its DSM assumptions and known changes for a large industrial load for the load forecast that was utilized in this IRP.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**COMMISSION JOINT INTERVENORS INFORMATION REQUEST DATED**

**06/30/2022**

**REQUEST 7**

**RESPONSIBLE PERSONS: Julia Tucker**

**Request 7.** Please explain in full each change, if any, to the load forecast methodology, as reflected in Vol. I Technical Appendix – Load Forecast, as compared to each of the following:

**Request 7a.** The load forecast methodology used in EKPC’s 2018 Load Forecast and 2019 IRP, filed with the Kentucky Public Service Commission in Case No. 2019-00096.

**Response 7a.** The load forecast methodology is unchanged.

**Request 7b.** The load forecast methodology used in EKPC’s 2014 Load Forecast and 2015 IRP, filed with the Kentucky Public Service Commission in Case No. 2015-00134.

**Response 7b.** The load forecast methodology is unchanged.

**Request 7c.** The load forecast methodology used in EKPC's 2010 Load Forecast and 2012 IRP, filed with the Kentucky Public Service Commission in Case No. 2012-00149.

**Response 7c.** The load forecast methodology is unchanged.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 8**

**RESPONSIBLE PERSONS: Julia Tucker**

**Request 8.** Please provide the following information on an annual basis for each of the years 2020 and 2021:

- a. Total energy requirements (MWh)
- b. Total energy requirements disaggregated by customer class (MWh)
- c. Percent increase (or decrease) in total energy requirements relative to the preceding year
- d. Actual annual load factor (%)
- e. Actual winter peak demand (MW)
- f. Actual summer peak demand (MW)

**Joint Intervenors Request 8**

**Response 8.**

Season	Winter Peak Demand (MW)	Year	Summer Peak Demand (MW)	Year	Net Total Requirements (MWh)	Percent Change (%)	Load Factor (%)
2019 - 20	2,723	2020	2,312	2020	12,786,403	-2.7%	55.1%
2020 - 21	2,862	2021	2,450	2021	13,154,676	2.9%	50.9%
2021 - 22	3,017	2022		2022 (Jan - Jun)	6,833,059		

The summer peak for 2022 is not available.

Year	Residential Sales Less DSM (MWh)	Seasonal Sales (MWh)	Small Comm. Sales (MWh)	Public Buildings (MWh)	Large Comm. Sales (MWh)	Public Street and Highway Lighting (MWh)	Total Retail Sales (MWh)
2020	6,915,401	662	1,791,061	34,187	3,251,726	8,771	12,001,809
2021	7,127,199	489	1,889,497	38,218	3,367,170	8,249	12,430,821
2022 (Jan - Jun)							

RUS class-level data for 2022 is not available.



**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 9**

**RESPONSIBLE PERSONS:        Julia Tucker**

**Request 9.**            Please provide the following information for the period January 1, 2022 through June 30, 2022:

- a. Total energy requirements (MWh)
- b. Total energy requirements disaggregated by customer class (MWh)

**Response 9.**            See response to Request 8 for total energy requirements. RUS class-level data for 2022 is not available.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2022-00098

FIRST INFORMATION REQUEST RESPONSE

JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022

REQUEST 10

RESPONSIBLE PERSON: Julia Tucker

**Request 10.** For each customer class reflected in Table 3-10, please provide the historical average growth rates from 2010 to 2022.

**Response 10.** 2022 RUS class-level data is not available. Compound average growth rates from 2010 to 2021 are provided.

	Residential	Seasonal Residential	Commercial and Industrial ≤ 1000 KVA	Commercial and Industrial > 1000 KVA	Public Street and Highway Lighting	Other Public Authorities	Total
Customers	0.7%	-26.3%	0.7%	1.0%	2.7%	0.5%	0.6%
Sales	-0.3%	-24.4%	-0.2%	-0.3%	1.4%	-1.2%	0.1%

Large declines in Seasonal Residential growth rates are due to reclassifications.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022**

**REQUEST 11**

**RESPONSIBLE PERSON:            Julia Tucker**

**Request 11.**            Refer to Table 3-4, titled “Class Sales”. Please provide Owner-Members’ Form 7 data for 2021, and an updated version of Table 3-4 including 2021 actual data in native, machine-readable format with all formulae intact.

**Response 11.**            See attached response.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 12**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 12.** Refer to Table 3-5, titled “EKPC Recorded Annual Energy Sales (MWh) and Energy Requirements (MWh) 2016–2020”. Please provide Owner-Members’ Form 7 data for 2021, and an updated version of Table 3-5 including 2021 actual data in native, machine-readable format with all formulae intact.

**Response 12.** See attached response.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 13**

**RESPONSIBLE PERSON:**           **Robin Hayes**

**Request 13.**           Refer to Technical Appendix, Vol. I – Load Forecast at page 16,  
which states:

Electricity Rates: The wholesale power cost projections are based on EKPC’s 2019 Integrated Resource Plan filing with the Kentucky Public Service Commission. Each owner-member provides a projection of the distribution adder for the retail rate assumption used in the individual owner-member models.”

Please answer the following:

**Request 13a.**           Please identify the month and year when the wholesale power cost  
projections in EKPC’s 2019 IRP were finalized.

**Response 13a.**        The cost projections were finalized in March of 2019 and Board  
approved in May 2019.

**Request 13b.** Has EKPC updated its wholesale power cost projections since its 2019 IRP filing with the Kentucky Public Service Commission?

- i. If so, please produce each such projection.
- ii. If not, please explain why, in EKPC's view, it is reasonable to rely on wholesale power cost projections that are more than two years old.

**Response 13b.** No, EKPC had no cases in front of the Commission that required the wholesale power cost projections.

- i. N/A
- ii. Yes, because in the 2020-21 timeframe EKPC was preparing to file for a rate case. Any projections at that time would need to reflect the rate case. The new rates went into effect October 1, 2021. Updated rates will be used in the 2022 Long Range Load Forecast that is currently under development.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 14**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 14.** Does EKPC's load forecast assume the development of any cryptocurrency operations? If so, please identify each operation and explain your assumptions in full along with supporting analyses, workpapers, and documentation (in machine-readable format with formulas intact).

**Response 14.** There are no assumptions for cryptocurrency operations in the 2020 load forecast.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 15**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 15.** Do the load forecasts of any individual member-owner assume the development of any cryptocurrency operations? If so, please (a) identify each member-owner forecasting cryptocurrency operations in their distribution service territory, (b) identify each existing and expected cryptocurrency operation in each member-owner's service territory, and (c) explain your assumptions in full along with supporting analyses, workpapers, and documentation (in machine-readable format with formulas intact).

**Response 15.** There are no assumptions for cryptocurrency operations in the 2020 load forecast.



**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022**

**REQUEST 16**

**RESPONSIBLE PERSON: Scott Drake**

**Request 16.** Do EKPC's generation assets currently serve any cryptocurrency operations? If so, please answer the following:

**Request 16a.** Please identify the amount of load or capacity factor attributable to cryptocurrency operations on an annual basis for each of 2019, 2020, 2021, and 2022 (to date).

**Response 16a.** 2019 - 0MWs, 2020 - 0MWs, 2021 - 6.5MWs, 2022 - 27.5MWs

**Request 16b.** Please describe the peak load or capacity factor attributable to cryptocurrency operations served by EKPC in each of 2019, 2020, 2021, and 2022 (to date).

**Response 16b.** The response in a) is the average peak load. All cryptocurrency loads of significant size are participants of the interruptible rider. The cryptocurrency loads have a very high load factor.

**Request 16c.** Has the addition of load from cryptocurrency operations impacted the capacity factors of any EKPC generation resources? Please explain why or why not in full, including the specific unit(s) impacted, the direction and magnitude of changes in capacity factor, and any implications with respect to fuel, operation, and maintenance expenses.

**Response 16c.** All EKPC's loads are served by the PJM market. Load does not directly impact the capacity factor of generation units. The Locational Marginal Price ("LMP") determines the capacity factor of generation units.

**Request 16d.** Has EKPC incurred any capital costs or other costs in relation to serving new load from cryptocurrency operations? If so, please describe each such expense in full, including dollar amount, purpose, and forecasted return.

**Response 16d.** The cryptocurrency companies that have taken retail service from EKPC Owner-Member Cooperatives ("Owner-Member") were required to provide

upfront reimbursement for all capital and administrative costs necessary to install facilities to establish such service. Therefore, EKPC has not absorbed any of these costs.

**Request 16e.** Do any cryptocurrency operations participate in EKPC's DSM programs? If so, please identify each program that cryptocurrency operations participated in, the number of cryptocurrency operations participating in each program, and the dollar value of incentives or rebates paid to participating cryptocurrency operations (in the aggregate and on average).

**Response 16e:** Four (4) cryptocurrency loads participate in the interruptible rider and incentives are paid based on the Commission-approved rider. All cryptocurrency loads receive the \$5.60/kW interruptible incentive.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 17**

**RESPONSIBLE PERSON: Fernie Williams**

**Request 17.** Regarding RTSim, please answer the following questions and requests:

- a. Does EKPC know of any other users of RTSim? If so, please list those users.
- b. What is EKPC's annual cost to license RTSim?
- c. What technical support, if any, is provided by RTSim's vendor?
- d. What are the typical run times for an RTSim simulation?
- e. Does RTSim have any data auditing or other QA functionalities?
- f. What data format is needed for input files, e.g., CSV, text, etc.?
- g. What data output formats are available in RTSim?
- h. Does RTSim use hourly chronology or load duration curves?
- i. How is the RTSim topology set up to capture interactions with PJM?
- j. Can RTSim represent more than one resource sharing an inverter? Please explain in full.

k. Can RTSim dispatch energy limited resources based on price or does a shape have to be specified?

l. Are the Monte Carlo simulations sequential?

m. What does EKCP mean when it says this IRP used the “statistical load methodology”?  
What other methodologies are available?

**Response 17.** Please see the responses below.

- a) RTSim is a proprietary product of Simtec, Inc., and as such, EKPC is not at liberty to share such proprietary information.
- b) RTSim is a proprietary product of Simtec, Inc., and as such, EKPC is not at liberty to share such proprietary information.
- c) Support via email and phone at any time; annual user conference for specific application updates/changes
- d) A 20 year, 500 iteration production cost model run completes in under four (4) hours. A capacity expansion study can run for five (5) days.
- e) RTSim provides logging of the model runs, which provide support information during the run. Tracking at the hourly level allows review of the model results and opportunities to ensure the model is performing as expected.
- f) Input files are in a proprietary text format, which are imported into

proprietary binary files for execution

- g) All output is provided via CSV files
- h) RTSim performs sub-hour modeling
- i) The generation facilities and load zones are mirrored in the same market facing Pnode configuration.
- j) RTSim can model a generation resource, such as solar, and a battery at the same location.
- k) RTSim can dispatch to a price or to a fixed profile.
- l) RTSim simulates the system one hour at a time over the entire study period, in this case fifteen (15) years.
- m) Statistical Load Methodology refers to a stochastic method; this is in addition to a method using a forecast that does not vary in the same manner as a stochastic method.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 18**

**RESPONSIBLE PERSON: Fernie Williams**

**Request 18.** At page 162 of the IRP Vol. 1, EKPC states “There is one set of load data in the model, which was created from the EKPC Load Forecast. Around this forecasted load, a range of distributions created four additional loads to define the high and low range of the potential loads to be examined. The model draws load data a few days at a time from the different forecasts (to represent weather patterns) to assemble the hourly loads to be simulated.”

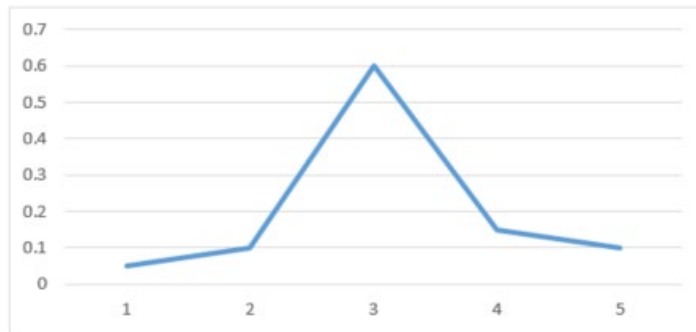
- a. Is the load sampling connected to any specific weather patterns given to the model? If so, please explain how this was accomplished and provide any supporting documentation.
- b. How are the market prices, natural prices, coal prices, and emissions costs correlated to load? Please explain in full.
- c. Please provide the load distributions described in these sentences.

**Response 18.** Please see the responses below.

- a) No specific weather patterns are used. A set of statistical weather periods

are defined, which are used to create simulations of high and low periods from the expected.

- b) The distributions of these commodities are tied to the distribution of the load. As the load is increased, so do the commodities. Likewise, when the load is decrease, the commodities decrease.



- c)



**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 19**

**RESPONSIBLE PERSON: Fernie Williams**

**Request 19.** Does RTSim’s Resource Optimizer use dynamic or integer programming? If the latter, how does the model develop “a large number of potential resource plans”? Please explain in full.

**Response 19.** RTSim is a proprietary product of Simtec, Inc., and as such, EKPC is not at liberty to share such proprietary information.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 20**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 20.** How are capital costs treated in Resource Optimizer, i.e., as revenue requirements, levelized project costs, or some other methodology? Please explain in full.

**Response 20.** Capital costs are entered for each year of the study period in a \$/year cost, so levelized project costs.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 21**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 21.** Does Resource Optimizer calculate the net present value of revenue requirements or the net present value of system cost? Please explain in full.

**Response 21.** The Resource Optimizer calculates the net present value of system costs, including new investment costs. It does not include sunk investment costs.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 22**

**RESPONSIBLE PERSON: Fernie Williams**

**Request 22.** To what type of iterations is EKPC referring when it says, "...the Resource Optimizer was set to try up to 2500 unique expansion plans, with each of those simulated with 5 iterations"? Please explain in full.

**Response 22.** The RTSim Resource Optimizer will create a unique set of resources and perform a production cost simulation for the particular configuration. This process is repeated over the 2500 runs, with 5 iterations of the production cost model to seek out the least cost plan.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 23**

**RESPONSIBLE PERSONS: Fernie Williams**

**Request 23.** On page 162 of the IRP Vol. 1, when EKPC says “Five hundred (500) iterations are used in the model simulations” does that mean 500 per portfolio or 500 total across all portfolios? Please explain in full.

**Response 22.** The 500 iterations of the production cost model are performed over a specific resource plan.

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REQUEST 24**

**RESPONSIBLE PERSON: Fernie Williams**

**Request 24a.** Please explain what is shown in Table 8-4, including explaining the relevance of “DSM AFFECTED” in the table title.

**Response 24a.** This indicates the load is net of the DSM programs

**Request 24b.** Please provide the spreadsheet with all formulas and links intact that was used to create Table 8-4.

**Response 24b.** Please reference text file *Sierra Club DRI Response 3 - IRP Tables 8-4 8-5 - RES-OPT-LOG.txt* in EKPC’s responses to the Sierra Club, contained in the response files.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022**  
**REQUEST 25**

**RESPONSIBLE PERSON:**           **Scott Drake**

**Request 25.**           Did EKPC model any additional, future DSM in any portfolio? If not, why not? If so, what did EKPC model? Please explain in full.

**Response 25.**           EKPC did model additional, future DSM savings in its portfolios. EKPC added 15 years of future participation (2022-2036) for each current DSM program. Also, two (2) EE programs were added to the DSM portfolio for the Middle and High Carbon cases: the ENERGY STAR<sup>®</sup> Appliance rebate program, and the Small Business Lighting program.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 26**

**RESPONSIBLE PERSON: Scott Drake, Julia Tucker**

**Request 26.** Regarding the Load Research Program (discussed in IRP section 3.7), please answer the following:

**Request 26a.** Does the EKPC load research program include any residences or commercial customers who are net metering customers, who use battery-back-up systems or who own electric vehicles? If yes, please provide the load data gathered from those customers over the past five years.

**Response 26a.** EKPC does not track this information for load research participants.

**Request 26b.** Does the Smart Home Pilot provide metering of specific circuits and appliances within the home, so as to determine actual energy use per appliance (e.g., heating, colling, water heating, plug loads, lighting, etc.)? Please explain.



**Response 26b.** The Smart Home Pilot has limited capability to disaggregate load. In particular, the manufacturer of the system can supply its proprietary digital thermostat. If the proprietary digital thermostat is utilized by the participant, the usage for the HVAC system is disaggregated and provided to the participant via the Smart Home app provided in the pilot. Additionally, the system utilizes an algorithm to capture run-time of the refrigerator and provides estimated energy usage data for the refrigerator via the same app. Other WiFi-enabled switches and plugs that the participant connects to the Smart Home system can also provide usage data to the participant.

**Request 26c.** Please provide the data gathered for all customers participating in the load research and smart home pilot for the preceding 5 years.

**Response 26c.** Load Research data is provided as a confidential attachment to this response. The Smart Home Pilot is still gathering data for evaluation. Individual energy consumption data will not be shared with 3rd parties. A final report of the aggregate energy and demand impacts for the Smart Home Pilot is expected to be completed by the end of 2022.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 27**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 27.** Please refer to pages 2, 3, and 34 of the IRP where it is implied that EKPC must incorporate the effects of electric vehicle penetration to adequately serve load for customers. However, on page 29 of Technical Appendix Volume 1, EKPC reported that over 94% of its customers had no plans to acquire an electric vehicle. Please answer the following:

**Request 27a.** Did EKPC adjust its load forecast for future electric vehicle penetration?

**Response 27a.** Based on responses to the 2020 End Use survey, electric vehicle penetration and adoption remain low for the owner-member service territories. Consequently, no adjustment was made to the load forecast for future electric vehicle penetration. As noted in the IRP, EKPC continues to monitor changes to end consumer adoption of electric vehicles as well as other potential beneficial electrification.

**Request 27b.** If so, please provide the data and assumptions used by EKPC to estimate future electric vehicle adoption.

**Response 27b.** N/A

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REQUEST 28**

**RESPONSIBLE PERSON:**           **Scott Drake**

**Request 28.**           Refer to page 35 of the 2022 IRP, particularly the statement that “the U.S. electric vehicle market is expanding rapidly and there will be increased infrastructure demand in Kentucky particularly along highway corridors within EKPC territory. . . . While projected adoption of EVs is predicted to be slower in Kentucky in comparison to other states (and in particular EKPC territory), EKPC recognizes that even modest increases in EV load in concentrated areas could provide challenges and opportunities for EKPC and its owner-members.”

**Request 28a.**           Please identify and produce the source relied on by EKPC when it represents that adoption of EVs is predicted to be slower in Kentucky generally and in particular in EKPC’s territory.

**Response 28a.**           Based on current adoption rates, it can be shown that Kentucky is adopting electric vehicles slower than the average. The following is a resource that

shows adoption rates by state. <https://www.energy.gov/eere/vehicles/articles/fotw-1236-may-2-2022-2021-125-new-light-duty-vehicle-registrations>

For adoption rates broken down by Kentucky County, the following link can be used as a resource:

<https://datamart.kytc.ky.gov/>: select vehicle and the county, you will see the registration data.

As an example: Owsley County, which is served entirely by an EKPC Owner-Member, has one (1) electric vehicle registration in comparison to 4,253 total registrations in the county, a percentage of .024%. Fayette County shows 453 electric vehicle registrations out of 209,115 total, a percentage of .22% percent; roughly (nine) 9 times the number of electric vehicle registrations per total registrations.

**Request 28b.** To EKPC's knowledge, how many EVs are currently owned and operated in EKPC territory?

**Response 28b.** Since EKPC and its owner-member serve portions of counties, it is not known for certain the number electric vehicles in the owner-members' service territories. EKPC estimates between 300 and 500 electric vehicles are charged at residences served by owner-members.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022**  
**REQUEST 29**

**RESPONSIBLE PERSON: Craig Johnson**

**Request 29.** For each of EKPC's coal-fired units, please provide the following historical annual data by unit, or, if EKPC does not maintain unit-level data, by plant, from 2012 to present:

- a. Fixed O&M cost
- b. Variable O&M cost
- c. Fuel costs
- d. Capital costs
- e. Heat rate
- f. Generation
- g. Capacity rating
- h. Capacity factor
- i. Forced outage rate
- j. Planned outage rate
- k. Energy revenues
- l. Capacity revenues
- m. Ancillary services revenues.

**Response 29.** Please see the responses below.

- a. See EKPC's response to the Sierra Club Request 12 sub-part h.
- b. See EKPC's response to the Sierra Club Request 12 sub-part i
- c. See EKPC's response to the Sierra Club Request 12 sub-part j.
- d. See EKPC's response to the Sierra Club Request 14 sub-part a.

- e. See EKPC's response to the Sierra Club Request 12 sub-part e.
- f. See attached Excel spreadsheet *Joint Intervenor Response 29.xlsx*.
- g. See EKPC's response to the Sierra Club Request 12 sub-part a.
- h. See EKPC's response to the Sierra Club Request 12 sub-part c.
- i. See EKPC's response to the Sierra Club Request 12 sub-part f
- j. See attached Excel spreadsheet *Joint Intervenor Response 29.xlsx*.
- k-m. See response to the Joint Intervenors, Request 80.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 30**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 30.** For each existing coal-fired unit, please provide the following projected annual data by unit, or if EKPC does not maintain unit-level data, by plant, for the economic analysis period in this filing (i.e., 2022–2036):

- a. Fixed O&M cost
- b. Variable O&M cost
- c. Fuel costs
- d. Capital costs
- e. Heat rate
- f. Generation
- g. Capacity rating
- h. Capacity factor
- i. Forced outage rate
- j. Planned outage rate
- k. Energy revenues
- l. Capacity revenues
- m. Ancillary services revenues.

**Response 30.** See attached Excel spreadsheet subject to motion for confidential treatment *Joint Intervenors DRI Response 30 – CONFIDENTIAL.xlsx* for a – k. Capacity revenues are not forecasted at the unit or plant level. Ancillary services are not forecasted.



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REQUEST 31

RESPONSIBLE PERSON: Julia Tucker

**Request 31.** Please confirm if EKPC is modeling the thermal resources on a UCAP or ICAP basis, and provide the following information for each of EKPC's thermal units:

- a. Forecasted annual capital expenditures
- b. Summer and Winter capacity contributions
- c. Forced outage rates for the last five years
- d. Forecasted forced outage rates

**Response 31.** The EKPC thermal fleet is modeled with ICAP values.

a. Please refer EKPC's response to the AG Request 31 Excel spreadsheet attachment *AG Response 31 - Project List 2022\_2031.xlsx*.

b.

	SummerRating	WinterRating
BLUEGRASS CT 1	165	195
BLUEGRASS CT 2	165	195
BLUEGRASS CT 3	165	195
SMITH CT 1	110	140

SMITH CT 2	105	140
SMITH CT 3	106	140
SMITH CT 4	71	92
SMITH CT 5	71	88
SMITH CT 6	69	88
SMITH CT 7	69	88
SMITH CT 9	76	101
SMITH CT 10	76	91
SPURLOCK 1	300	300
SPURLOCK 2	510	510
SPURLOCK 3	268	268
SPURLOCK 4	268	268
COOPER 1	116	116
COOPER 2	225	225

c.

	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
COOPER 1	6%	3%	2%	3%	3%
COOPER 2	5%	5%	5%	6%	5%
SPURLOCK 1	3%	4%	2%	2%	2%
SPURLOCK 2	4%	4%	4%	3%	5%
SPURLOCK 3	6%	6%	5%	5%	6%
SPURLOCK 4	3%	2%	2%	3%	3%
SMITH CT 1	4%	10%	11%	11%	11%
SMITH CT 2	5%	5%	4%	2%	3%
SMITH CT 3	14%	15%	14%	14%	14%
SMITH CT 4	5%	5%	5%	4%	4%
SMITH CT 5	4%	4%	5%	4%	4%
SMITH CT 6	5%	6%	6%	6%	6%
SMITH CT 7	6%	7%	7%	6%	8%
SMITH CT 9	5%	5%	4%	4%	4%
SMITH CT 10	14%	15%	16%	15%	15%
BLUEGRASS CT 1	2%	8%	10%	11%	11%
BLUEGRASS CT 2	1%	9%	9%	12%	16%
BLUEGRASS CT 3			9%	14%	13%

d.

Future

COOPER 1	5%
COOPER 2	5%
SPURLOCK 1	3%
SPURLOCK 2	4%
SPURLOCK 3	4%
SPURLOCK 4	3%
SMITH CT 1	4%
SMITH CT 2	5%
SMITH CT 3	7%
SMITH CT 4	5%
SMITH CT 5	4%
SMITH CT 6	5%
SMITH CT 7	6%
SMITH CT 9	5%
SMITH CT 10	4%
BLUEGRASS CT 1	4%
BLUEGRASS CT 2	4%
BLUEGRASS CT 3	5%

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 32**

**RESPONSIBLE PERSON: Craig Johnson**

**Request 32.** Please provide the most recent condition assessment report for each of EKPC's thermal generating units.

**Response 32.** Please see attached zip file, "Joint Intervenor Response 32 – Boiler Inspection Reports - CONFIDENTIAL.zip"

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 33**

**RESPONSIBLE PERSON: Jerry Purvis**

**Request 33.** For each of the Companies' existing coal-fired units, please produce the most recent estimate that the Companies have prepared or caused to be prepared of the capital and O&M costs to comply with the following regulations:

- a. Acid deposition control program
- b. Cross State Air Pollution Rule
- c. Mercury and Air Toxics Standards
- d. Combustion turbine NESHAP rule
- e. NAAQS
- f. Regional Haze rule
- g. Greenhouse gas regulations
- h. 316(b) cooling water intake rule
- i. Effluent Limitations Guidelines
- j. Any new definition of waters of the United States
- k. Coal Combustion Residuals rule
- l. Pending enforcement actions by citizen groups or regulatory agencies of any state and/or federal environmental requirements.

**Response 33.** It is unclear what is meant by the question's repeated reference to "Companies." Assuming the question is directed to EKPC, for background purposes, EKPC routinely files environmental surcharge cases with the Commission, permit

applications with the Division of Air Quality, Water, and Waste as the delegated authority by EPA to protect the human health, welfare and the environment in accordance to the current EPA and State regulations. To understand how EKPC is complying with the latest set of final rules, please refer to the 2022 IRP responses in Section 9.0. To understand the capital outlay and O&M please refer to the Case Nos. 2017-00376 and 2018-00270, the latest modification to the EKPC environmental compliance plan amendment and CPCN request and order granted that reflect compliance with the following rules up to 2022. The respective Cabinet level agencies read, review applications and determine applicability by the issuance of defensible and regulatory permits. Most of the rules listed below are an accumulation of over several years of work by the EKPC and the Kentucky Energy and Environment Cabinet (“Cabinet”), its respective agencies and permits issued to comply with the following regulations including EPA Acid Rain, which dates back to 1985.

a. Acid deposition control program – EKPC assumes this request relates to the EPA Acid Rain program circa January 1, 1985. If so, please see the following from January 1, 1985. Sec. 401 Acid Deposition Control under Title IV of the Clean Air Act SEC. 401 address the findings and purposes. Congress finds that-

"(1) the presence of acidic compounds and their precursors in the atmosphere and in deposition from the atmosphere represents a threat to natural resources, ecosystems, materials, visibility, and public health;

"(2) the principal sources of the acidic compounds and their precursors in the atmosphere are emissions of sulfur and nitrogen oxides from the combustion of fossil fuels;

"(3) the problem of acid deposition is of national and international significance;

"(4) strategies and technologies for the control of precursors to acid deposition exist now that are economically feasible, and improved methods are expected to become increasingly available over the next decade;

"(5) current and future generations of Americans will be adversely affected by delaying measures to remedy the problem; "(6) reduction of total atmospheric loading of sulfur dioxide and nitrogen oxides will enhance protection of the public health and welfare and the environment; and

"(7) control measures to reduce precursor emissions from steam-electric generating units should be initiated without delay. The purpose of the EPA Acid Rain program from Congresses perspective to reduce the adverse effects of acid deposition through reductions in annual emissions of sulfur dioxide of ten million tons from 1980 emission levels, and, in combination with other provisions of this Act, of nitrogen oxides emissions of approximately two million tons from 1980 emission levels, in the forty-eight contiguous States and the District of Columbia. It was the intent of this title to effectuate such reductions by requiring compliance by affected sources with prescribed emission limitations by specified deadlines, which limitations be met through alternative methods of compliance provided by an emission allocation and transfer system. It was also the

purpose of this title to encourage energy conservation, use of renewable and clean alternative technologies, and pollution prevention as a long-range strategy, consistent with the provisions of this title, for reducing air pollution and other adverse impacts of energy production and use.

EKPC has complied by building a wet flue gas desulfurization (“WFGD”) system on Spurlock unit 2 during its initial construction in 1981 as permitted under the Clean Air Act program, performed a fuel switch on Spurlock unit 1, Cooper unit 1 and 2 and burned coals less than 1.2 lbs. SO<sub>2</sub> / mmbtu at Dale Station when it operated. Later, EKPC performed a fuel switch on Spurlock unit 2 to not exceed 1.2 lbs. SO<sub>x</sub> / mmbtu and turned the “scrubber” off after approximately three years due to economics. Under the Acid Rain program, compliance could be achieved by either investing in capital equipment such as “scrubbers”, buying and trading SO<sub>2</sub> allowances or performing a fuel switch to remain under the tons of allocated by EPA. EKPC participated in the capital purchase of a scrubber on Unit 2 at Spurlock, a fuel switch and later as needed purchased allowances under the Acid Rain program post 1985.

b. Cross State Air Pollution Rule – Please refer to the 2022 IRP Section 9.0 Section and Case No. 2018-00270. EKPC is in compliance with the Cross State Air Pollution Rule from 2015, 2017 update, and the revised 2020 rule to the present. The 2022 Ozone Federal Implementation Program, ‘Good neighbor rule, ‘transport rule’, is



pending EPA review. EPA received over 112,000 comments according to the EPA docket and has not been issued final rule. EKPC filed official comments requesting that EPA correct errors in their modeling, errors due to common stack emissions and proposed solutions. Please see EPA Docket number EPA-HQ-OAR-2021-0668. The spring 2022 unified agenda issued June 20, 2022 states that EPA is scheduled to release the final rule in March 2023. EKPC installed and commissioned new scrubbers on Spurlock Unit 2 in October 2007, Unit 1, April 2009, Cooper unit 2 in 2012, tied in Cooper unit 1 in 2015, retired Dale Station in 2016. EKPC represents one of the cleanest fleets with regards to SO<sub>x</sub>, NO<sub>x</sub>, acid gas particulate matter control and hazardous air pollutants. EKPC spent more than 1.2 billion dollars on environmental controls as approved by the respective Cabinet agencies and the Commission. For the most recent environmental surcharge case please refer to the October 3, 2018 application and April 1, 2019 final Order of the Commission in Case No. 2018-00270.

c. Mercury and Air Toxics Standards – EPA issued this final rule on February 16, 2012. EKPC had entered into an EPA Consent Decree for NSR September 24, 2007. The EPA NSR Consent Decree provided the control equipment outlined in response 33b. Therefore, EKPC only had to add a minimal capital outlay of nearly \$ 1 million to comply with MATs at Spurlock Station for acid gases and HAPs. Cooper Station pollution control complied with MATs ahead of the rule and Dale Station retired after exploring its options under the 1-year extension.

d. Combustion turbine NESHAP rule – All of EKPC’s turbines complied with the rule before the Court Stay and after it was lifted earlier this year without capital outlay or additional O&M costs.

e. NAAQS – all of EKPC’s units are permitted by the state as the delegated authority for EPA under the Clean Air Act title V program, which meets or exceeds expectations for the existing NAAQs for criteria pollutants. The 2022 EPA Ozone federal implementation plan ‘transport rule’ is pending EPA review and final comments.

f. Regional Haze rule – EKPC worked with the Cabinet and EPA to modify the Kentucky Regional Haze plan May 28, 2010 to switch the original plans for Cooper Station from wet FGD to dry FGD on the Cooper units 1 and 2 in order to satisfy or exceed the requirements for the Best Available Retrofit Technology (BART) with applicability from 1962 to 1977. The EPA agreed with the Kentucky Division of Air Quality (“KDAQ”) to amend and modify their state implementation plan. EKPC installed an environmental pollution control train, dry scrubber, SCR, filter fabric baghouse on Unit 2 in 2012 and later added Cooper unit 1 in 2015 ahead of the compliance date set forth by EPA and the State. EKPC exceeded the expectation contained in the Regional Haze plan put forth by KDAQ.

g. Greenhouse gas regulations. The Supreme Court issued an adverse ruling on the Clean Power Plan / Affordable Clean Energy Rule June 2022. EKPC and the regulated community await any forthcoming new carbon / GHG regulations, scheduled March 2023 in the Spring unified regulatory agenda.

h. 316(b) cooling water intake rule – EKPC submitted a permit renewal application to the Kentucky Division of Water (“KDOW”) with the required submittals pursuant to the 122.21(r)(2)-(8) included in the renewal application per section 125.95(a)(1) on behalf of Spurlock Station units 1-4. The KDOW made a determination and agreed that EKPC Spurlock Station is in compliance with 316(b). EKPC is scheduled to submit an application for the Cooper Station renewal to KDOW December 2022 and the 316(b) report. KDOW will review the application to determine if Cooper’s intakes meet in its judgement the best available control technology in accordance with 316(b).

i. Effluent Limitations Guidelines – EKPC sought and received Spurlock’s Kentucky Pollutant Discharge Elimination System (“KPDES”) final permit on January 1, 2019. The Commission authorized and amended the EKPC environmental compliance plan to gain recovery in rates for the Spurlock CCR and ELG compliance plan and project for \$262.4 million dollars, Case No. 2017-00376. EKPC is in compliance with ELG given that its bottom ash boiler are zero discharge to the environment. Waters of the

Commonwealth and Spurlock is commissioning a new flue gas desulfurization waste water system (WWT) in accordance to its KPDES permit.

j. Any new definition of waters of the United States – EKPC monitors all EPA and Army Corp regulations for definition changes, modifications and rulemaking. All of EKPC's projects go through an extensive NEPA process as required by our borrower, the RUS and internal Natural Resource regulatory processes to insure compliance. As EKPC expands its asset base via landfills, land disturbances and impacts to Waters of the US or Commonwealth, it uses its rigorous processes in place and external environmental consultants to monitor, measure identify, qualify and quantify impacts to streams and present our findings to the Army Corp of Engineers' respective offices in Louisville, KY, Huntington, WV or Nashville, TN. EKPC is monitoring the current revisions to the EPA WOTUS and Army Corp regulations May 4, 2022 proceedings.

k. Coal Combustion Residuals rule – EKPC is in compliance with the multiple CCR rules. EKPC submitted on November 27, 2020 to EPA the 40 CFR 257.103(f)(1): Development of Alternative Capacity is Technically Infeasible document for EPA review. EKPC received a conditional approval, January 11, 2022. EKPC submitted our conditional approval response March 25, 2022 that is pending EPA review and determination.

1. EKPC is unaware of any enforcement actions pending against it at this time.

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 34**

**RESPONSIBLE PERSON: Jerry Purvis**

**Request 34.** For each of the Companies' existing coal-fired units, please provide the capital and O&M costs projected to be incurred each year from 2022 through 2036 to comply with the following regulations:

- a. Acid deposition control program
- b. Cross State Air Pollution Rule
- c. Mercury and Air Toxics Standards
- d. Combustion turbine NESHAP rule
- e. NAAQS
- f. Regional Haze rule
- g. Greenhouse gas regulations
- h. 316(b) cooling water intake rule
- i. Effluent Limitations Guidelines
- j. Any new definition of waters of the United States
- k. Coal Combustion Residuals rule
- l. Pending enforcement actions by citizen groups or regulatory agencies of any state and/or federal environmental requirements.

**Response 34.** EKPC monitors all EPA and State regulations. Please refer to the Integrated Resource Plan 2022 in Section 9.0. On June 20, 2022, the Agency Rule List - spring 2022 Unified Agenda was posted to the web site at <https://www.reginfo.gov/>. The rules have not gone final and therefore, EKPC does not have costs to comply available at

this time. When the rules become available in the federal register, EKPC will work with state and EPA regulators to develop and amend environmental compliance plans.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 35**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 35.** Please provide unredacted versions of the tables shown on pages 104–110, in native machine-readable format with formulae intact.

**Response 35.** The confidential spreadsheet has been sent to the Joint Intervenors and the Commission. No other party has, as of yet, signed a confidentiality agreement with EKPC.



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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 36**

**RESPONSIBLE PERSON: Craig Johnson**

**Request 36.** Refer to Tables 7-1, 7-2, 7-3, and 7-4.

**Request 36a.** Please provide the estimated cost for each individual major project listed in each table.

**Response 36a.** Please see the response to Request 31a.

**Request 36b.** For each cost estimate provided in response to subpart (a), please specify the degree of cost certainty (e.g., using the cost estimate classification system of AACE International or other commonly-used cost certainty methodology).

**Response 36b.** Each of the budgetary estimates for the major projects listed in subpart (a) have been developed to an AACE Estimate Class 3 level with an expected accuracy range of +/- 20%. During the early stages of project development, EKPC project teams work with multiple parties such as the Original Equipment Manufacturers

(OEM's), engineering consultants familiar with the plant, equipment, or necessary area of discipline, and internal subject matter experts to define the project scope in order to provide a detailed basis for each major project's budgetary estimate. To support authorization to implement, project teams continue to refine the quality and accuracy of each major project estimate through detailed design and with further development of the overall execution plan and schedule. Also, to help ensure a higher degree of cost certainty, a comparison of estimated cost data to recently completed projects of similar scope and schedule is conducted prior to authorization.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 37**

**RESPONSIBLE PERSON: Craig Johnson**

**Request 37.** Please answer the following questions regarding EKPC's landfill gas generation resources:

**Request 37a.** Does EKPC own and operate the landfill gas facilities, or does EKPC purchase the power from each facility from a third-party owner and operator? Please explain.

**Response 37a.** EKPC owns all of the plants. The full output of the Glasgow plant is sold to Farmers RECC and not considered a part of EKPC's generation resources.

**Request 37b.** Please identify the expected operational life for each landfill gas facility.

**Response 37b.** The following are the depreciable lives for each of the plants. The operational life will likely exceed these dates given good operation and maintenance of the assets.

Bavarian	2038
Green Valley	2038
Hardin	2041
Laurel Ridge	2038
Pendleton	2042

**Request 37c.** Please provide the forecasted annual energy generation through the expected operational life for each landfill gas facility.

**Response 37c.** The five landfill gas stations reliably produced 94,339 MWhs of net generation for EKPC's members in 2021. This generation is relatively consistent with past year's performance indicating a reliable source of generation. Glasgow is not included in this total since the total output of the station is purchased by Farmers RECC. The capacity factor for each station is as follows for 2021:

Bavarian 75.93%

Green Valley 76.91%

Hardin 53.74%

Laurel Ridge 49.26%

Pendleton 86.81%

**Request 37d.** Has EKPC evaluated the potential for developing additional landfill gas facilities in its service area or in Kentucky? If so, please produce each such evaluation. If not, please explain why not.

**Response 37d.** EKPC can only develop landfill gas facilities when they can come to mutually agreeable terms with the landfill owner / operator. EKPC has not reached agreeable terms with any landfill facilities other than those where existing plants are located.

**Request 37e.** In EKPC's estimation, what is the maximum technical potential for landfill gas generation in EKPC's service territory? Please explain.

**Response 37e.** See Response 37d.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 38**

**RESPONSIBLE PERSON: Craig Johnson**

**Request 38.** Did EKPC evaluate any of its existing generation units for retirement?

**Response 38** No

**Request 38a.** If yes, please identify each unit evaluated for retirement and describe EKPC's methodology for evaluating optimal retirement timing.

**Response 38a.** N/A

**Request 38b.** Please identify the assumed retirement date for each generating unit in EKPC's portfolio and state whether that assumed retirement date is consistent with EKPC's most recent depreciation study, filed with the Kentucky Public Service Commission in Docket No. 2021-00103.

**Response 38b.** EKPC has not assumed a retirement date on any of its units other than for calculating the depreciable life of the assets as included in the latest depreciation study filed with the Commission. It is beneficial to EKPC's owner-members and end-use retail members if a unit is able to serve until it is fully depreciated. In recent cases, some expert witnesses have suggested that the depreciable life of generation units should be extended. Unless the unit can stay in operation until it is fully depreciated, owners-members and end-use retail members must pay the sunk costs of the retired generation in addition to the cost of replacement capacity.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 39**

**RESPONSIBLE PERSON:            Julia Tucker**

**Request 39.**            On page 161 of the IRP it is stated that, “Market and fuel prices are updated on a regular basis to ensure that current expectations are being modeled in the analysis. Fuel and market cost assumptions and projections were developed in the Fall 2021 in order to have adequate time to robustly evaluate integrated resource plan alternatives.” Please provide the market and fuel commodity prices used by EKPC to evaluate the 2022 IRP.

**Response 39.**            Please see attached PDF File *Joint Intervenor Response 39*.



**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 40**

**RESPONSIBLE PERSON: Fernie Williams**

**Request 40.** Please provide, in spreadsheet format with all formulas and links intact, the RTSim input and output files used in the production of this IRP.

**Request 40a.** Please see attached zip files, “Joint Intervenors Response 40 – Inputs - CONFIDENTIAL.zip” and “Joint Intervenors Response 40 – Outputs - CONFIDENTIAL.zip”

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022**

**REQUEST 41**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 41.** Please provide any RTSim model documentation in EKPC's possession, including, but not limited to the user manual.

**Response 41.** RTSim is a proprietary product of Simtec, Inc., and as such, EKPC is not at liberty to share such proprietary information.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 42**

**RESPONSIBLE PERSON: Fernie Williams**

**Request 42.** If RTSim outputs were post-processed in any way, please provide those spreadsheets with all formulas and links intact.

**Response 42.** No post-processing was performed.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 43**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 43.** Please explain if short term market purchases were available in the capacity expansion modeling. If purchases were allowed, please provide the annual amount and cost that was available for selection.

**Response 43.** No short-term options were included in this modeling. As the IRP is by definition a long term view, it is assumed that short-term options will be reviewed and pursued as needed.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 44**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 44.** How were the Guidehouse carbon prices incorporated into the IRP modeling, if at all?

**Response 44.** The Guidehouse carbon prices were utilized in the Demand Side Analysis, as well as ensuring that the market costs developed from those scenarios were encompassed in the RTSim iterations.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 45**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 45.** At page 24 of the IRP, EKPC states “The 2022 IRP preparation however added an additional external step to ensure EKPC’s ability to meet its sustainability goal of 15% of new renewable energy in 2035...”

**Request 45a.** What is EKPC’s current progress towards meeting this goal?

**Response 45a.** Request for Proposals (“RFP”) solicitations will be performed to seek resources to meet corporate sustainability goals. No power purchase agreements (“PPAs”) have been entered towards the EKPC Sustainability goals at this time.

**Request 45b.** Why are any new renewables missing from Table 1-4 page 25?

**Response 45b.** This table represents the anticipated capacity additions only, not the expected renewable or energy hedges.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 46**

**RESPONSIBLE PERSON: Scott Drake**

**Request 46.** Refer to Table 1-3, titled “DSM Impacts”, which shows forecasted DSM impacts for the first five years in the load forecast used in the 2022 IRP and the load forecast used in the 2019 IRP.

**Request 46a.** Please confirm that, with respect to the rows reporting values from the 2022 IRP, “Year 1” refers to 2023. If anything but confirmed, please identify what year is reflected as “Year 1” of the 2022 IRP in Table 1-3.

**Response 46a.** No. “Year 1” refers to 2022 with respect to rows reporting values from the 2022 IRP.

**Request 46b.** Please confirm that, with respect to the rows reporting values from the 2019 IRP, “Year 1” refers to 2019. If anything but confirmed, please identify what year is reflected as “Year 1” of the 2019 IRP in Table 1-3.

**Response 46b.** Yes. “Year 1” refers to 2019 with respect to rows reporting values from the 2019 IRP.



**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 47**

**RESPONSIBLE PERSON: Scott Drake**

**Request 47.** Refer to page 35 of the IRP (pdf page 52), particularly the paragraph discussing provisions in the infrastructure law related to energy efficiency.

**Request 47a.** What percentage of residential customers served by EKPC's 16 owner-members would meet the income qualifications for low-income home weatherization?

**Response 47a.** Neither EKPC nor its owner-members track income qualifications of retail members.

**Request 47b.** Please explain in full how federal spending on energy efficiency in EKPC's service territory is expected to impact EKPC's load forecast. If no analysis of impacts has been performed, please explain why not.

**Response 47b.** EKPC has performed an analysis of the estimated impact that the additional anticipated Federal funding from the Infrastructure Investment and Jobs Act

("IIJA") might have on the EKPC load forecast. At least \$55 million will be provided statewide to the Weatherization Assistance Program. According to the Federal Weatherization and Intergovernmental Programs Office, the Kentucky Weatherization Assistance Program has received \$51.2 million since 2010. In that period, 7,321 homes were weatherized. Assuming the same funds per home, the \$55 million IIJA funding would result in approximately 7,864 additional homes being served in Kentucky.

Using the five-year average of homes served by the EKPC CARES low-income program, CARES serves approximately 9.4% of the homes weatherized in Kentucky each year.

9.4 % of 7,864 results in approximately 750 additional CARES homes. Assuming the funding will be dispersed over a 3-year period, 250 additional CARES homes per year for 3 years would be weatherized.

Under these assumptions, the Federal IIJA funds would provide the following savings in the EKPC load forecast for the years 2024 through 2036:

3,371 MWH per year

1.0 MW on winter peak

0.5 MW on summer peak

This is the equivalent of two years of future participation for the CARES program as modeled in this IRP.

**Request 47c.** Please explain whether and the cost-effectiveness of EKPC's EE/DR programs will be impacted by the infrastructure law.

**Response 47c.** Most energy efficiency funding opportunities from the IJA identified by the State Energy Office will be allocated for low-income programs such as the Community Action Agencies or similar non-profit Affordable Housing organizations. The dollars will go directly to those agencies providing direct assistance to income-qualified Kentuckians. EKPC and its owner-members' CARES (Low-income Weatherization program) provides funding to those agencies in addition to grants from IJA or other governmental resources. Therefore, the cost-effectiveness of EKPC's energy efficiency programs will be unchanged.

**Request 47d.** EKPC states that "Kentucky, and Kentucky-based recipients are likely to receive a portion of these federal monies." To the best of EKPC's knowledge, what is the possible amount of federal energy efficiency funding expected for (i) Kentucky as a whole and (ii) EKPC's service territory.

**Response 47d.** Per information provided to EKPC from the State Energy Office, at least \$55 million will be provide statewide to the Weatherization Assistance Program, which is typically provided to Community Action Agencies or similar non-profit

Affordable Housing organizations. The amount that could impact the EKPC owner-members' service territories is unknown.

**Request 47e.** Does EKPC agree that it is in the best interests of its owner-members' retail customers to maximize the federal investment of energy efficiency resources in EKPC's territory? If EKPC disagrees, please explain in full the basis for your disagreement.

**Response 47e.** EKPC supports the IJA grants being provided to Community Action Agencies or other non-profit Affordable Housing organizations that provide assistance directly to income-qualified Kentuckians.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 48**

**RESPONSIBLE PERSON:**           **Scott Drake**

**Request 48.**           Refer to page 35 of the IRP, particularly the paragraph discussing provisions in the federal infrastructure law related to grid modernization.

**Request 48a.**           EKPC states that it “is still awaiting additional information as to how these resources will be distributed and for what specific purposes the dollars can be used.” Please provide any updated details along these lines.

**Response 48a.**           The federal government released guidance to the states for the money provided through Kentucky pertaining to Grid Resiliency. EKPC, along with its owner-members, hired a consultant to assist in evaluating the opportunities for funding projects. The review of that guidance and identification of potential projects that EKPC or any of its owner-members might seek funding are ongoing at this time.

**Request 48b.**           Please explain the potential grid hardening and resilience projects that EKPC is considering in relation to these grid modernization funds.

**Response 48b.** EKPC is currently evaluating potential projects for EKPC to propose for funding. EKPC has not yet determined which projects, if any, that EKPC will pursue funding.

**Request 48c.** Please elaborate on EKPC's expectations with respect to cybersecurity for electric cooperatives under the federal infrastructure law (e.g., resources available, allowed uses, process, timeline, etc).

**Response 48c.** Guidance from the federal government for cybersecurity funding has not been provided by the federal agency that is responsible for disseminating those funds.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 49**

**RESPONSIBLE PERSON: Scott Drake**

**Request 49.** Refer to pages 178–179 of the 2022 IRP, discussing the Biden Administration’s particular focus on environmental justice, and explaining: “EKPC’s service area includes a significant number of end users in economically distressed communities. As such, there may be opportunities for increased funding directed toward bringing energy and efficiency programs to those areas, through RUS electric programs.”

**Request 49a.** Please identify and explain the specific energy and efficiency programs in the above-referenced statement.

**Response 49a.** The State Energy Office has provided general information to the potential funding categories resulting from the IIJA. One significant energy efficiency category is low-income energy efficiency assistance. EKPC expects the monies will support low-income energy efficiency programs offered by the Community Action Agencies and other non-profit affordable housing organizations. EKPC’s CARES low-

income program supplements the low-income energy efficiency programs offered by those organizations.

**Request 49b.** Please describe EKPC’s efforts to support or engage with the referenced energy and efficiency programs.

**Response 49b.** Please reference response 49a.

**Request 49c.** Please describe the amount of current funding to the referenced energy and efficiency programs and the portion of that funding available in EKPC’s service area.

**Response 49c.** Please see response to 47b. The amount expected to impact the EKPC owner-members’ service areas is unknown.

**Request 49d.** What is the magnitude of the potential funding increase?

**Response 49d.** Please reference response 49c.



**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022**

**REQUEST 50**

**RESPONSIBLE PERSON: Scott Drake**

**Request 50.** Please provide the impact that EKPC's demand-side management programs have had on each of (a) winter peak, (b) summer peak, and (c) energy requirements on an annual basis over the most recent ten year period.

**Response 50.** The following table shows the impact of EKPC's demand-side management programs have had on peak and energy requirements over the most recent ten-year period.

The EE annual impacts are incremental. The annual impacts for the Direct Load Control program are incremental for the first eight years (2012 through 2019), and cumulative for the last two years (2020 and 2021).

<b>EKPC DSM impacts</b>								
all impacts are incremental annual unless otherwise noted								
<b>Energy Efficiency</b> (incremental)				<b>Demand Response (DLC)</b>				
	<b>Annual Energy Savings (MWh)</b>	<b>Summer Demand Savings (MW)</b>	<b>Winter Demand Savings (MW)</b>		<b>Annual Energy Savings (MWh)</b>	<b>Summer Demand Savings (MW)</b>	<b>Winter Demand Savings (MW)</b>	<b>Note</b>
2012	14,148	2.5	2.8		23	2.7	1.0	
2013	16,612	2.8	3.3		66	7.1	2.0	
2014	12,471	1.8	3.0		44	4.8	1.3	
2015	24,809	4.0	4.8		25	2.8	0.7	
2016	34,304	5.4	5.6		16	1.8	0.4	
2017	39,213	5.6	5.3		5	0.6	0.1	
2018	29,220	4.3	4.3		1	0.2	0.0	
2019	10,623	1.8	2.2		0.4	0.1	0.0	
2020	5,435	0.5	1.1		252	27.7	7.7	cumulative
2021	5,293	0.6	1.3		219	25.6	6.4	cumulative

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 51**

**RESPONSIBLE PERSON:**           **Scott Drake**

**Request 51.**           Please answer the following questions relating to the Load Impacts of DSM Programs, presented at pages 115–119 of the 2022 IRP:

**Request 51a.**           Do columns labeled “Participants” reflect new participants in each year or cumulative participants dating from 2022 forward? Please explain.

**Response 51a.**           The values in the Participants column reflect cumulative annual participation through that year, starting from 2022.

**Request 51b.**           Are the impacts on Total Requirements, Winter Peak, and Summer Peak reflecting only new participants in each year, or cumulative impacts for all participants since 2022 (or some other baseline year)? Please explain.

**Response 51b.**           The impacts on Total Requirements, Winter Peak, and Summer Peak reflect the cumulative impacts for all participants starting from 2022. The programs

have different savings lifetimes, and these are reflected in the cumulative impacts. This explains why the cumulative participants and impacts for the Residential Energy Audit program do not increase after 2026.

**Request 51c.** What is the basis for the assumed number of participants each year?

**Response 51c.** The forecast for the number of future participants in each DSM program was prepared by examining actual participation in 2020 and increasing participation in programs where future enrollment is expected to exceed 2020 levels.

**Request 51d.** On what basis did EKPC select participation rates which fall below the Maximum and Realistic Achievable Potential of these programs? Please explain in full.

**Response 51d.** See response to 51c.

**Request 51e.** For each DSM program, please explain whether the cost-benefit (or cost-effectiveness) analysis is affected by the number of participants? Please continue

to explain how the DSM analysis considered economies of scale, in which greater market penetration can create economic benefits that reduce per unit cost of saved energy.

**Response 51e.** When fixed costs are a significant share of total program costs, program cost-effectiveness will improve as the number of participants increases, all else being equal. The higher the ratio between fixed and variable costs, the more improvement can be expected in cost-effectiveness as participation levels increase. For the DSM portfolio in this 2022 IRP, programs whose fixed costs are a significant share of total program costs include the Residential Energy Audit, Residential Efficient Lighting, and Direct Load Control programs.

**Request 51f.** Has EKPC researched and performed cost-benefit analysis on different strategies for implementing DSM programs, to identify potential cost-effective methods to increase program participation? Please explain in detail and produce each such analysis or study.

**Response 51f.** EKPC researches and performs cost-benefit analysis on different strategies for implementing DSM programs when it designs or modifies a program. The goal of such analysis is to improve cost-effectiveness, not necessarily participation. That said, lowering a program's cost per kWh saved will increase kWh savings for a given program budget allocation. In certain cases, the goal has been to maximize the savings per participant, which often results in lowering cost-effectiveness as less economic

measures are added. EKPC has not performed this kind of cost-effectiveness analysis for this 2022 IRP.

**Request 51g.** Has EKPC issued an RFP for DSM service providers, with the intent to solicit proposals for achieving greater participation rates, in line with the Maximum and Realistic Achievable Potential? If so, please provide that RFP and responses thereto. If not, please explain why not.

**Response 51g.** EKPC, in partnership with its owner-members, implements most energy efficiency programs directly. This method is preferred by most owner-members to maintain direct engagement with retail members implementing efficiency improvements at their home. EKPC issues RFPs and contracts with third parties to implement most demand response programs, direct load control and thermostats, due to the volume of activity. This structure is preferred. EKPC has not issued an RFP to specifically achieve participation rates in line with MAP or RAP.

**Request 51h.** Refer to the table at page 116, reflecting the forecasted load impacts of the Heat Pump Retrofit program. Please explain the basis for assuming no impact on winter peak demand, including supporting documentation and workpapers, if any.

**Response 51h.** At outdoor temperatures below freezing, both the heat capacity and efficiency of an air source heat pump, (as measured by the coefficient of performance “COP”) degrades significantly. At a design temperature of 0 degrees Fahrenheit, the COP for a 14 Seasonal Energy Efficiency Ratio (“SEER”) heat pump is effectively the same as the backup electric resistance heat that typically provides a good share of the heat requirements at that temperature.

As a result, the peak demand of a 14 SEER heat pump on the coldest day of the winter is no different from the peak demand of an electric furnace or any other electric heat source. Installing a new efficient air source heat pump instead of an electric furnace produces substantial annual energy savings (kWh), but it does not save winter peak capacity (kW).

**Request 51i.** Refer to the table at page 118, reflecting the forecasted load impacts of the Residential Energy Audit Program. Please explain why assumed participants, impact of total energy requirements and impact on seasonal peak demand are flat from 2026 onward.

**Response 51i.** Please see response 51b.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 52**

**RESPONSIBLE PERSON: Scott Drake**

**Request 52.** Who implements DSM programs for EKPC and its owner-members? Are the programs operated by EKPC, the individual owner-members, or third-parties? Please answer for each individual DSM program.

**Response 52.**

Button-up Weatherization – implemented by the owner-members.

CARES Low-income – implemented by non-profit affordable housing organizations such as the Community Action Agencies. The owner-member verify the results.

Heat Pump Retrofit – implemented by the owner-member

Touchstone Energy Home – implemented by the owner-member

ENERGY STAR® Manufactured Home – implement by the owner-member

Residential Energy Audit program – implemented by the owner-member

Residential Efficient Lighting – implemented by the owner-member

Direct Load Control (switches and thermostats) – implemented by 3<sup>rd</sup> parties via agreements with EKPC. Operated by EKPC.

For all DSM programs, EKPC provides DSM program technical assistance and support to the owner-member, when requested.



**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 53**

**RESPONSIBLE PERSON: Scott Drake**

**Request 53.** Refer to Table 5-3, titled “DSM Program Costs.” Please clarify whether the program costs provided in Table 5-3 are intended to reflect annual costs, cumulative costs over the IRP planning period, or some other time scale. Please explain.

**Response 53.** The program costs in Table 5-3, titled “DSM Program Costs”, are cumulative costs over the 15-year IRP planning period. Future year costs are discounted using a 5% discount rate.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 54**

**RESPONSIBLE PERSON: Scott Drake**

**Request 54.** Please provide workpapers relied on to develop Table 5-4, titled “DSM Program Cost Savings” in native, machine-readable format with formulae intact.

**Response 54.** The values in Table 5-4, titled “DSM Program Cost Savings” are the benefits in the Total Resource Cost test. Cost values are the present value of the future stream of costs using a 5% discount rate. The benefits in the Total Resource Cost test include avoided energy production costs, avoided generation capacity costs, avoided transmission capacity costs, and reduced natural gas costs (for CARES low-income program). These benefits are reported in the “Test Results” tab of the proprietary DSMore software tool. The following table shows the benefits section of the Test Results tab for the CARES low-income program:

TRC Test

Avoided Electric Production	\$9,737,687.06
Avoided Electric Production Adders	\$0.00
Avoided Electric Capacity	\$3,065,896.07
Avoided T&D Electric	\$2,061,613.71
Avoided Ancillary	\$0.00
Avoided Gas Production	\$1,064,159.66
Avoided Gas Capacity	\$130,201.41
Total	\$16,059,557.91

The calculations that produce these results are performed by algorithms embedded in the DSMore software. These algorithms are proprietary. At a high level, the algorithms multiply the avoided cost per unit (\$ per kWh, \$ per kW-year, \$ per therm) in a given year by the associated total load impacts (kWh, kW, therms) for that year. The net present value of each avoided cost category is then calculated. These net present values are reported in the Test Results tab.

The avoided electric cost per-unit values by year for each cost element are provided in EKPC's response to Commission Staff information Request 39.

Exhibit DSM-4, "Summary Sheets for DSM Programs", gives these present values, by avoided cost category, for each program. These can be found in the third box of each summary sheet, under the title "Total Resource Benefits".

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 55**

**RESPONSIBLE PERSON: Scott Drake**

**Request 55.** Refer to Technical Appendix Vol. 2 at page DSM-6, which states that “EKPC sponsored multiple EKPC DSM Collaborative meetings in 2021 to review all energy efficiency and demand response measure cost-effectiveness results and obtained input from the Collaborative representatives pertaining to DSM program changes.”

**Request 55a.** Please clarify whether the referenced “DSM Collaborative” is synonymous with or distinct from the “Sustainability Collaborative” mentioned elsewhere in the IRP materials.

**Response 55a.** The DSM Collaborative and the Sustainability Collaborative are the same.

**Request 55b.** Please identify the dates of the referenced EKPC DSM Collaborative meetings in 2021.

**Response 55b.** March 19, 2021; April 20, 2021; August 26, 2021; September 19, 2021

**Request 55c.** Please identify the individuals and organizations that participated in each meeting identified in response to subpart (b).

**Response 55c.**



**Voting Members**

<b>Name</b>	<b>Company/Organization</b>
Scott Drake (Co-Chair)	East Kentucky Power Cooperative
Carrie Ray (Co-Chair)	Mountain Association
Denise Cronin	East Kentucky Power Cooperative
Natasha Wiley	Big Sandy RECC
Jake Campbell	Blue Grass Energy Cooperative
Charlie Pasley	Clark Energy Cooperative
Rich Prewitt	Cumberland Valley Electric
Caralyne Pennington	Farmers RECC
Tim Pease	Fleming-Mason Energy Cooperative
Kim Bush	Grayson RECC
Dan Hitchcock	Inter-County Energy Cooperative
Ryan Henderson	Jackson Energy Cooperative

John May	Licking Valley RECC
Jason Mattingly	Nolin RECC
Mike Stafford	Owen Electric Cooperative
Tim Sharp	Salt River Electric Cooperative
Dusty Phelps	Shelby Energy Cooperative
Michelle Herrman	South Kentucky RECC
Ann Beard	Taylor County RECC
Amy Sohner	Bluegrass GreenSource
Lane Boldman	Kentucky Conservation Committee
Lisa Abbott	Kentuckians for the Commonwealth
Dawn Cooley	Kentucky Interfaith Power and Light
Tom Manning-Beavin	Frontier Housing
Jody Kyler Cohn	Kentucky Industrial Utility Customers
Tom Salyers	Nucor/Gallatin Steel
Lee Lingo	Kentucky Association of Manufacturers
Kate Shanks	Kentucky Chamber of Commerce

**Non-voting Members and Observers (Invited)**

<b>Name</b>	<b>Company/Organization</b>
Shiela Medina	Center for Applied Energy Research
Kenya Stump	Energy and Environment Cabinet
	Attorney General Office
	Kentucky Public Service Commission

**Request 55d.** Please produce any presentations or materials EKPC distributed to the DSM Collaborative in 2021 and 2022.

**Response 55d.** See EKPC’s response to the Commission Staff’s Initial Data Request 42.

**Request 55e.** Please produce any notes or other records in EKPC’s possession detailing input obtained from the Collaborative representatives pertaining to DSM program changes.

**Response 55e.**

**EKPC Sustainability Collaborative**

**March 19, 2021**

**Virtual Meeting**

**(Collaborative Members Only)**

The East Kentucky Power Cooperative, Inc. (“EKPC”) Sustainability Collaborative (“Collaborative”) held its kick-off meeting, open to Collaborative members only, on March 19, 2021, at 1:00 pm eastern, via the Microsoft Teams virtual platform. Scott Drake, EKPC representative and Collaborative Co-Chair, facilitated the virtual meeting and granted attendee access.

A safety moment and welcome message were provided by EKPC executives, Denise Foster and David Crews.

At Scott Drake’s direction, attending Collaborative members introduced themselves to the group.

**Who We Are: EKPC and its Owner-Member Cooperatives**

Joe Settles, EKPC Member Services, presented an overview of the electric cooperative model; the Board of Directors’ structure; the guiding principles of EKPC, its Owner-Member distribution cooperatives and the Kentucky Touchstone Energy Cooperatives; EKPC’s generation facilities and its membership in the PJM Interconnection LLC, a regional transmission organization; and the cooperatives’ environmental stewardship and economic development focus. A brief question and answer period followed.

**EKPC Sustainability Collaborative Charter Review**



Co-Chairs, Scott Drake of EKPC and Carrie Ray of the Mountain Association for Community Economic Development (“MACED”), presented an overview of the Collaborative’s Charter, highlighting the group’s purpose, voting and non-voting member structure, meeting planning, available funding and the group decision-making process. Discussion and a brief question and answer period followed.

*EKPC Sustainability Plan*

Co-Chair Scott Drake presented to the group details of EKPC’s Sustainability Plan, including goals, working groups/teams and employee engagement. Discussion and a brief question and answer period followed.

Scott Drake advised the Collaborative members that an online polling survey would be distributed to identify the date and time of the next virtual meeting, which will be open to the public. The meeting adjourned.

**EKPC Sustainability Collaborative**  
**April 20, 2021**  
**Virtual Meeting**  
**(Open to Collaborative Members & Public)**

The East Kentucky Power Cooperative, Inc. (“EKPC”) Sustainability Collaborative (“Collaborative”) held its meeting, open to Collaborative members and public observers, on April 20, 2021, at 1:00 pm eastern, via the Microsoft Teams virtual platform. Public notice was provided on EKPC’s external website. Scott Drake, EKPC representative and Collaborative Co-Chair, facilitated the virtual meeting and granted attendee access.

A safety moment was provided by Co-Chair Carrie Ray, Mountain Association representative. An attendee roll call was conducted by Scott Drake.

Scott Drake advised the group that the Collaborative will meet frequently at this point due to preparations for the EKPC Integrated Resource Plan, to be provided to the Kentucky Public Service Commission, outlining energy efficiency and demand response programs. At a later time, the Collaborative meetings will meet on a quarterly basis as intended.

*Energy Efficiency and Demand Response*

Scott Drake and special guest, John Farley, Demand Side Management (“DSM”) energy expert, presented an overview of the energy efficiency and demand response programs offered by EKPC currently; the 2020 data associated with those programs; the process of evaluating the cost-effectiveness of such programs; and a DSM potential study in progress.

Committee member and public observer questions were addressed throughout the meeting.

Scott Drake advised the Collaborative members that an online polling survey would be distributed to identify the date and time of the next virtual meeting. The meeting adjourned at 2:36 pm.

**EKPC Sustainability Collaborative**

**August 26, 2021**

**Virtual Meeting**

**(Open to Collaborative Members)**

The East Kentucky Power Cooperative, Inc. (“EKPC”) Sustainability Collaborative (“Collaborative”) held its meeting of the Collaborative representatives, on August 26, 2021, at 1:00 pm eastern, via the Microsoft Teams virtual platform. Scott Drake, EKPC representative and Collaborative Co-Chair, facilitated the virtual meeting and granted attendee access.

The meeting purpose was to review draft cost-effectiveness results of energy efficiency (EE) and demand response (DR) measures. EKPC contracted with GDS Associates to complete a technical potential study of all possible EE and DR measures. The draft results were provided to all Collaborative representatives for review, discussion and recommendations.

A safety moment was provided by Co-Chair Carrie Ray, Mountain Association representative. An attendee roll call was conducted by Scott Drake.

Scott Drake presented a review of the energy efficiency and demand response programs offered by EKPC currently; the 2020 data associated with those programs; the process of evaluating the cost-effectiveness of such programs; and a DSM potential study in progress.

The GDS Associates provided a measure-level cost-effectiveness (Total Resource Costs “TRC”) evaluation for possible residential and C&I EE and DR programs based on 4 different criteria:

- Base Case – EKPC avoided costs based on a forward price curve for energy and capacity prices in PJM.
- Low-Carbon Case - Base Case plus a per kWh energy adder for carbon from a Guidehouse study based on RGGI.
- Middle-Carbon Case – Base Case plus a per kWh energy adder for carbon from a Guidehouse study based on the Biden Administration proposal for carbon.
- High-Carbon Case – Base Case plus a per kWh energy adder for carbon from a Guidehouse study based on the social cost of carbon in NY.

John Farley, EKPC's DSM expert consultant, provided a comparison of cost-effective measures from this study in 2021 versus the cost-effectiveness study performed in 2018 in preparation for EKPC's IRP filing in 2019. Scott Drake and John Farley lead the discussion and answered questions pertaining to the TRC results.

General comments and questions:

- Representatives noted the EKPC should have a C&I LED lighting EE program or measures because the TRCs are above 1.0. EKPC noted that a program like that was eliminated in 2019 because of the very high level of free-riders. Most of the participants were planning to replace the less-efficient lamps with LEDs without an incentive from the utility. Representatives noted that some economically-challenge businesses still have the need for an incentive.
- Representatives suggested that EKPC and owner-member systems should be a leader in EE, especially with Low-Moderate Income (LMI) members. EKPC noted that its CARES LMI program's participation levels are under-performing and is evaluating ways to improve the program's performance.
- Representatives noted that the residential duct seal measure is cost-effective and recommended that measure to be added to the Button-up Weatherization program. EKPC is evaluating that recommendation.
- A discussion ensued about the process for identifying new programs and outreach.

Representatives requested a second virtual meeting a few weeks out to allow for more review. The next meeting to discuss EE and DR measure cost-effectiveness and programs was scheduled for September 16, 2021 at 9:30 AM EPT. Meeting adjourned.

**EKPC Sustainability Collaborative  
September 16, 2021  
Virtual Meeting  
(Open to Collaborative Members)**

The East Kentucky Power Cooperative, Inc. (“EKPC”) Sustainability Collaborative (“Collaborative”) held its meeting of the Collaborative representatives, on September 16, 2021, at 9:30 am eastern, via the Microsoft Teams virtual platform. Scott Drake, EKPC representative and Collaborative Co-Chair, facilitated the virtual meeting and granted attendee access.

The meeting purpose was to facilitate a deep-dive and discussion pertaining to the cost-effectiveness results of energy efficiency (EE) and demand response (DR) measures. EKPC contracted with GDS Associates to complete a technical potential study of all possible EE and DR measures. This Collaborative meeting was a follow-up meeting to the Collaborative meeting on August 26, 2021.

A safety moment was provided by Co-Chair Carrie Ray, Mountain Association representative. An attendee roll call was conducted by Scott Drake.

Scott Drake presented a review of the energy efficiency and demand response programs offered by EKPC currently; the 2020 data associated with those programs; the process of evaluating the cost-effectiveness of such programs; and a DSM potential study in progress.

The GDS Associates provided a measure-level cost-effectiveness (Total Resource Costs “TRC”) evaluation for possible residential and C&I EE and DR programs based on 4 different criteria:

- Base Case – EKPC avoided costs based on a forward price curve for energy and capacity prices in PJM.
- Low-Carbon Case - Base Case plus a per kWh energy adder for carbon from a Guidehouse study based on RGGI.
- Middle-Carbon Case – Base Case plus a per kWh energy adder for carbon from a Guidehouse study based on the Biden Administration proposal for carbon.
- High-Carbon Case – Base Case plus a per kWh energy adder for carbon from a Guidehouse study based on the social cost of carbon in NY.

EKPC acknowledged that since the August 26<sup>th</sup> meeting, it has been evaluating incorporating the Duct Sealing measure into the Button-up Weatherization program. John Farley performed additional research and evaluation of the measure’s cost-effectiveness, suggested incentive levels, and the resulting Rate Impact Measure (RIM). Those items were discuss by the Collaborative

representatives. EKPC plans additional discussions with its executive staff and owner-members.

The Collaborative discussed the cost-effectiveness and potential opportunities of a C&I lighting program. Collaborative representatives noted that many small businesses still struggle with investing in energy efficient lighting upgrades and many lighting measures are cost-effective. EKPC noted that the previous C&I lighting program saw significant free-ridership that caused EKPC to eliminate the program. EKPC acknowledged that the previous program was a broad measure approach to implementation. EKPC noted that in 2022 it will evaluate developing a more narrowly focused C&I lighting program.

Meeting adjourned.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 56**

**RESPONSIBLE PERSON: Scott Drake**

**Request 56.** In Technical Appendix Volume 2, Ex. DSM-2, EKPC provides annual DSM reports for program years 2018, 2019, and 2020. Please provide the 2021 annual DSM report.

**Response 56.** See attached PDF *Joint Intervenor Response 56 - 2021 EKPC DMS DLC Annual Report.pdf*.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 57**

**RESPONSIBLE PERSON: Scott Drake**

**Request 57.** Refer to Technical Appendix Volume 2, Ex. DSM-6. Please clarify what annual DSM budget level is assumed in the derivation of program load impacts provided in Ex. DSM-6. (e.g., the base case \$3 million budget scenario).

**Response 57.** The annual DSM budget level that is assumed in the derivation of program load impacts in Exhibit DSM-6 is the base case \$3 million budget scenario.



**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 58**

**RESPONSIBLE PERSON: Scott Drake**

**Request 58.** For each of the energy efficiency and demand response programs included in EKPC's 2022 IRP, please answer the following requests:

**Request 58a.** Please explain in detail how avoided costs were determined for each cost benefit test used (e.g., Total Resource Cost Test, Utility Cost Test, Participant Cost Test, Rate Impact Measure Test, Societal Cost Benefit Test)

**Response 58a.** The following table shows, for each of EKPC's DSM programs, the avoided cost elements included in the Total Resource Cost test, Utility Cost test, Ratepayer Impact Test, and Societal Test.

These four tests use the same avoided cost elements. All but the Societal Test use a 5% discount rate. The Societal Test uses a 3.5% discount rate.

Program	Electric Energy	Generation Capacity	Transmission Capacity	Natural Gas Energy & Capacity
Button-Up Weatherization	√	√	√	
CARES – Low Income	√	√	√	√
Heat Pump Retrofit	√	√	√	
Touchstone Energy (TSE) Home	√	√	√	
ENERGY STAR <sup>®</sup> Manufactured Home	√	√	√	
Residential Energy Audit	√	√	√	
Residential Efficient Lighting	√	√	√	
Direct Load Control- Residential: AC Bring Your Own Thermostat	√	√	√	

The Participant Test does not use avoided costs in its calculation of benefits to the Participant. The benefits in the Participant Test include participant electricity bill savings, natural gas bill savings, and rebates paid to participants.

See Response 54 for a description of the method that is used to calculate avoided costs.

**Request 58b.** Please provide the values used for each element of the avoided cost categories listed below. Please provide the source of the values used and state whether the values are in nominal dollars or in real, inflation-adjusted dollars.

- i. Energy cost
- ii. Capacity cost
- iii. Capacity reserves (if not included in capacity costs)
- iv. Natural gas price
- v. Environmental externalities, including avoided methane loss from gas transmission, distribution, and storage infrastructure
- vi. Line losses, for energy and peak (please specify if the estimate is based on average or marginal line loss rates)

**Response 58b.** EKPC uses the following avoided cost categories: Energy cost, Capacity cost, Natural Gas price, and Transmission costs. The values used for each element of the avoided cost categories is given in EKPC’s response to Commission Staff information request #39. The values are in nominal dollars. The following table gives the source for these values:

<b>Avoided cost category</b>	<b>Source</b>
Electric Energy	ACES <sup>1</sup> Forward prices for AEP_Dayton hub.
Generation Capacity	PJM capacity performance market, Short Term and IHS Markit (forecast)
Transmission Capacity	OATT <sup>2</sup> 2020-2021 tariff
Natural Gas Energy & Capacity	ACES Henry Hub forecast

<sup>1</sup> ACES is a nationwide energy management company that provides risk management services to Generation & Transmission companies

<sup>2</sup> OATT stands for “Open Access Transmission Tariff”

Losses are modeled at 8% for electric and 1% for natural gas. Electric line losses are at marginal line loss rates.

**Request 58c.** Please state whether any of the following avoided cost categories listed below are included in the Companies' avoided cost calculation and if so, please provide the value, source of the value, and state whether the value is in nominal dollars or in real, inflation-adjusted dollars.

- i. Ancillary services
- ii. Transmission and distribution
- iii. Non-energy benefits ("NEBs") (please specify which NEBs are included, if any)
- iv. Increased reliability
- v. Reduced risk (e.g., reduced exposure to future fuel price volatility, future environmental regulation compliance costs, uncertainties of demand forecasts and related capital investments, etc.)
- vi. Reduced credit and collection costs
- vii. Reduced pollution or environmental damage
- viii. Reduced negative health impacts
- ix. Any other avoided cost values incorporated into cost-effectiveness analysis.

**Response 58c.** The reference to "Companies" is unclear. Assuming the question is directed to EKPC, see Response 58b.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 59**

**RESPONSIBLE PERSON: Scott Drake**

**Request 59.** Refer to Exhibit DSM-1, 2021 Potential Study prepared by GDS Associates, Inc.

**Request 59a.** Please define each of the terms (i) maximum achievable potential and (ii) realistic achievable potential.

**Response 59a.** Achievable potential is the amount of energy that can realistically be saved given various market barriers. Achievable potential considers real-world barriers to encouraging end users to adopt efficiency measures, the non-measured costs of delivering programs (including administration, marketing, tracking systems, and monitoring & evaluation), and the capability of programs and administrators to boost program activity over time. Barriers include financial, customer awareness, and willingness-to-participate (“WTP”) in programs, as well as technical constraints and other barriers that the “program intervention” is modeled to overcome. Additional

considerations include political and/or regulatory constraints. The GDS potential study evaluated two achievable potential scenarios:

Maximum achievable potential (“MAP”) estimates achievable potential assuming that the program pays incentives up to 100% of incremental measure costs, combined with aggressive adoption rates.

Realistic Achievable potential (“RAP”) estimates achievable potential if EKPC pays incentive levels (as a percent of incremental measure costs) closely calibrated to historic levels. However, RAP is not constrained by any previously determined spending levels.

**Request 59b.** Please (i) list each factor or variable used in the derivation of realistic achievable potential that differs from the factor(s) or variable(s) used in the derivation of maximum achievable potential, and (ii) explain in full the basis for each changed factor or variable.

**Response 59b.** Two factors are used in the derivation of RAP which differ from the factors used on the derivation of MAP. The core factor is the incentive level. The incentive level drives the long-term adoption rates for each measure in the study. For the RAP, the incentive levels were based on historic levels of EKPC incentive payments. For

the MAP, incentive levels were set to 100% of incremental measure costs, yielding an effective payback of zero years. Tables 3-3 and 3-4 in Exhibit DSM-1 (pages 14 & 15) show the impact of incentive levels on long term adoption rates for the residential and nonresidential sectors respectively. These long-term market adoption levels were based on aggregated WTP market research across several recent GDS studies.

**Request 59c.** As applied in the referenced document, is the “maximum achievable potential” equivalent to “achievable potential”? If not, please explain in full each difference between the two terms.

**Response 59c.** “Achievable potential” is an umbrella term that includes both MAP and RAP.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022**

**REQUEST 60**

**RESPONSIBLE PERSON: Scott Drake**

**Request 60.** At page 10 of the IRP, EKPC states it “has re-evaluated all of its DSM programs for cost-effectiveness. Some programs have been eliminated and others have been modified.”

**Request 60a.** Please provide the analysis referred to in these sentences.

**Response 60a.** EKPC re-evaluated all of its DSM programs for cost-effectiveness in the analysis which is described in Technical Appendix Volume 2 – DSM.

**Request 60b.** Please explain why EKPC chose to eliminate programs rather than attempt to modify them in order to become cost-effective? Please provide any documents that support your response.



**Response 60b.** The statement “Some programs have been eliminated and others have been modified” is incorrect and should not have been included. EKPC did not eliminate any of its current DSM programs.

**Request 60c.** Please explain in full why no new DSM programs are being proposed.

**Response 60c.** Please refer to the response to Commission Staff information Request 19.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 61**

**RESPONSIBLE PERSON:**           **Scott Drake**

**Request 61.**           In EKPC’s view, have participation levels in its DSM programs materially changed over the last 5 years or the last 10 years? Please explain what changes EKPC has observed, if any, including EKPC’s opinion on the driver(s) of those changes.

**Response 61.**           When EKPC offered the ENERGY STAR<sup>®</sup> Appliances, Appliance Recycling, and Commercial & Industrial Lighting programs (2015-2019), participation in those programs were good and those programs drove energy savings to an all-time high. However, as a result of a decline in energy and capacity prices evaluated for the 2019 IRP, the ENERGY STAR<sup>®</sup> Appliances and Appliance Recycling were no long cost-effective. EKPC, after approval by the Commission, discontinued those programs. The C&I Lighting program’s discontinuance was also approved by the Commission because EKPC and its owner-members observed a high rate of free riders due to LED bulbs being installed without the need of a utility provided incentives. Additionally, some measures in long-standing energy efficiency programs (i.e. Button-up Weatherization) were

eliminated due to cost-effectiveness. However, participation in the remaining programs have been relatively steady.

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 62**

**RESPONSIBLE PERSON: Scott Drake**

**Request 62.** How, if at all, did GDS' Potential Study influence the recommended DSM plan given on page DSM-17 of Volume 2? Please explain in full.

**Response 62.** The GDS Potential Study provides a baseline for determining measures that are cost-effective. EKPC and its owner-members use the baseline data to identify programs that might require elimination, modification or to be developed into a new program. The energy and demand cost inputs for the latest Potential Study versus the previous Potential Study simply were close in value. That results in the cost-effectiveness for the measure to be relatively the same. After consulting with the owner-member energy advisor staff on programs and measures needed for their members, the result was small changes in the programs offered.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 63**

**RESPONSIBLE PERSON: Scott Drake**

**Request 63.** Please provide Appendices A and B of the GDS potential study in electronic spreadsheet format.

**Response 63.** GDS did not provide the electronic version of these Appendices to EKPC.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 64**

**RESPONSIBLE PERSON: Scott Drake, Julia Tucker**

**Request 64.** Please answer the following questions related to EKPC's commercial and industrial customers:

**Request 64a.** When a new commercial or industrial customer is added to the EKPC system, what options for interruptible, direct load control, or other similar service are provided to that customer? Please explain in full.

**Response 64a.** The key account representatives at the owner-member's office provides information to the new commercial and industrial member. EKPC is always willing to provide support for that staff when requested.

**Request 64b.** If interruptible, direct load control, or other similar tariffs are available, are their credits and assumptions informed by any avoided cost data, e.g., PJM energy and capacity prices? Please explain in full.

**Response 64b.** EKPC performs TRC cost-effectiveness evaluations for demand response programs including interruptible and direct load control. All programs are approved by the Commission. Interruptible credits are based on EKPC's avoided cost for the next Combustion Turbine – the most likely next capacity resource. Direct load control credits are based on an amount of credit that results in End-Use Retail Members choosing to participate in the program. It's a marketing amount.

**Request 64c.** Please provide a breakdown of peak MW and MWH of industrial load by sector and season. This could be provided using NAICS or SIC or a comparable segmentation.

**Response 64c.** Load data is segmented by RUS consumer classification. Segmentation by NAICS or SIC is not available.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 65**

**RESPONSIBLE PERSON: Scott Drake, Julia Tucker**

**Request 65.** At page 33–34 of the IRP, EKPC states “At maximum, Energy Efficiency may receive compensation for four delivery years of capacity value if it were planned and not yet implemented before the start of the first delivery year....participation in the RPM capacity market would not provide monetary value to offset any implementation costs. Because EKPC territory is a single zone in the PJM region, and no other load serving entities serve load in our zone, we would derive no financial compensation from our Energy Efficiency clearing in the market. To be able to treat Energy Efficiency (a load reducer) as a supply resource that competes against generation, PJM scales up the load in the zone. Effectively, the energy efficiency would be an offset to the load allocated to us. Moreover, participation could be a cost because PJM has established measurement and verification requirements to ensure that the Energy Efficiency provides the capacity value for which it would be paid. Those requirements are complex, and EKPC would incur a cost to produce the required evaluation and reports.”



**Request 65a.** From EKPC's perspective, how, if at all, are the capacity deferral and energy demand reduction benefits of energy efficiency realized by EKPC?

**Response 65a.** Because EKPC participates in PJM, multiple ways exist to realize the benefits of energy efficiency and demand response.

a. Historically, EKPC constructs generation assets to serve its owner-members' energy needs (i.e. load). This IRP demonstrates the commitment to have generation assets to serve native load versus being reliant on the PJM market for energy and demand. Reductions in demand resulting from implemented DSM programs defers EKPC's need for new assets.

b. Annually, EKPC pays PJM for the capacity required to serve EKPC's load. Lowering that forecast lowers EKPC's payment to PJM each year. Over time, demand and energy saved from DSM programs gets included in the load obligation forecast and lowers EKPC's payment to PJM each year to pay for EKPC's capacity needs.

**Request 65b.** What is EKPC's position on the benefits of registering demand response resources with PJM? If different than its position on energy efficiency, please explain why.

**Response 65b.** EKPC works to optimize all resources. Historically, EKPC constructs generation assets to serve its owner-members' energy needs (i.e. load). This IRP demonstrates the commitment to have generation assets to serve load versus being reliant on the PJM market for energy and demand. Reductions in demand resulting from implemented DSM programs defers EKPC's need for new assets. However, demand response resources have a couple of options to monetize them in PJM, providing greater value to EKPC.

a. The Capacity Performance ("CP") market pays for all demand reduction that clears the CP market. That market required all demand reduction resources to be able to perform for up to 12 hours at a time. EKPC's interruptible resources participate in the CP market and EKPC receives direct financial compensation for those resources. However, EKPC's direct load control resources do not participate in the CP market because turning of a water heater for 12 hours or controlling air conditioning for 12 hours isn't feasible.

b. EKPC is evaluating offering the demand reduction from the direct load control resources in the PJM Peak Shaving Adjustment ("PSA") program. The PSA program lowers the annual load obligation each year resulting in a lower payment by EKPC to PJM to serve our load.

**Request 65c.** What is EKPC's understanding of how the impacts of energy efficiency beyond the first four years of any given measure's life are accounted for by PJM?

**Response 65c.** PJM adjusts EKPC's load obligation each year based on a calculated amount of energy efficiency being deployed in Kentucky. Lowering the load obligation lowers EKPC's payment to PJM each year.

**Request 65d.** Has EKPC done any analysis of the tradeoff between measurement and verification costs and the benefit of additional market revenue for energy efficiency? If so, please provide that analysis.

**Response 65d.** In 2021, EKPC's demand reduction from energy efficiency programs was 0.586kWs. Based on an assumed Capacity Performance payment of \$100/MW-day, the annual benefit is about \$20,000. EKPC would receive total payments over four (4) years of approximately \$80,000. EKPC staff requested a high-level estimate from a third party that provides this service to other utilities that participate in PJM. To perform the measurement and verification work for EKPC, the approximate costs are \$100k minimum. No detailed analysis was performed.

**Request 65e.** Please describe the methodology used by PJM to scale up its zonal load. Please identify any PJM manuals, or reports that detail this methodology. If data additional to the hourly load data are used to undertake this methodology please identify the sources of those data.

**Response 65e.** Refer to section 7.3 beginning on page 176 of PJM Manual 18: PJM Capacity Market. <https://www.pjm.com/~media/documents/manuals/m18.ashx>

**Request 65f.** Please identify which tables in the PJM January 2022 Load Forecast Report correspond to EKPC's capacity planning, energy efficiency, demand response, and other relevant load forecasting data applied to the EKPC zone. Particularly as it applies to subpart (e) of this question.

**Response 65f.** Refer to the response to Request 65(e). A Base Zonal RPM Scaling Factor is determined for each zone and is equal to the [(Preliminary Zonal Peak Load Forecast for the Delivery Year divided by the Zonal Weather Normalized Summer Peak for the summer four years prior to the Delivery Year)\*((RTO Unforced Capacity Obligation Satisfied in Base Residual Auction divided by the (RTO Preliminary Peak Load Forecast \* the Forecast Pool Requirement))]. Zonal peak load is adjusted for peak loads of zone/areas that elected FRR option. This is reported along with the results of the

Base Residual Auction for the PJM delivery year. It is not reported in the PJM January 2022 Load Forecast Report.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 66**

**RESPONSIBLE PERSON: Darrin Adams, Julia Tucker**

**Request 66.** Refer to page 129 of the IRP, specifically the statement that “EKPC expects to see a net overall reduction in system losses as a result of the planned construction of 31.1 miles of new 69 kV line in the 2022–2036 period.”

**Request 66a.** Please quantify the expected net overall reduction in system losses as a result of the planned construction of 31.1 miles of new 69 kV line in the 2022–2036 period.”

**Response 66a.** The estimated peak MW load reduction is 0.7 MW based on a comparison of EKPC’s power-flow models with and without the planned new 69 kV lines. Using a loss factor of 31%, this results in an estimated energy loss reduction of 1,900 MWh annually.

**Request 66b.** Please explain in full how the expected net overall reduction in system losses discussed in the referenced statement have been incorporated into EKPC's forecasted energy requirements in the 2022–2036 period.

**Response 66b.** System losses included in the load forecast are based on historic system averages. Individual expansion projects are not identified or modeled in the long-term load forecast.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 67**

**RESPONSIBLE PERSON: Darrin Adams, Julia Tucker**

**Request 67.** Refer to Section 6.0 Transmission and Distribution Planning at page 131, particularly the discussion of merchant-generation facilities in the PJM queue that requested interconnection to the EKPC transmission system, and answer the following questions:

**Request 67a.** For each of the six projects that have an executed Interconnection Service Agreement, please provide the generation resource type (e.g., stand-alone solar generation facilities or hybrid solar/battery storage facilities) and installed capacity.



**Response 67a.**

<b>PJM Queue ID</b>	<b>Generation Resource Type</b>	<b>Installed Maximum Capacity (MW)</b>
AC1-074	Solar	80
AC2-075	Solar	20
AD2-048	Solar	70
AD2-072	Solar	95
AE1-143	Solar & Storage	96
AE2-254	Solar	50

**Request 67b.** Please explain whether and to what extent EKPC considered the potential to enter into power purchase agreements with new merchant-generation facilities seeking interconnection to the EKPC transmission system.

**Response 67b.** EKPC’s future plan includes several solar PPAs. There are no assumptions made on where those purchases will be made. EKPC issues a RFP prior to making any long term PPA commitments. EKPC’s recent RFPs for solar have indicated that EKPC would prefer that the project from which it will be purchasing be connected to the EKPC transmission system. EKPC’s second choice would be energy within the PJM system and the third choice is energy that has to be transferred into PJM.

**Request 67c.** To EKPC's knowledge, are any projects among the total 103 active merchant-generation facilities in the PJM queue requesting interconnection to the EKPC transmission system intended to serve cryptocurrency operations? If so, please explain the basis for EKPC's knowledge, identify each such project, and describe the project, to the extent possible.

**Response 67c.** EKPC has no awareness of whether any of the active merchant-generation facilities in the PJM queue are intended to serve cryptocurrency operations.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2022-00098

FIRST INFORMATION REQUEST RESPONSE

JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 68

RESPONSIBLE PERSON: Darrin Adams

**Request 68.** Refer to Section 6.0 Transmission and Distribution Planning at page 133, particularly the statement that “EKPC monitors peak distribution substation transformer loads seasonally to identify potential loading issues for delivery points to owner-members.”

**Request 68a.** Please list peak distribution substation transformer loads where potential loading issues were identified in the last three years (i.e., three most recent summer and winter seasons)

**Response 68a.** The following distribution substations experienced peak load levels of 90% or more of the summer transformer rating for the 2019-2021 period:

*Asahi Motor Wheel*

*Bluegrass Parkway #1*

*Brooks*

*Kargle #1*

*Lebanon*

*Pleasant Grove #1*

*Vine Grove*

*West Mount Washington*

*W.R. Smoot #2*

The following distribution substations experienced peak load levels of 90% or more of the winter transformer rating for the 2020-2022 period:

*Mariba*

**Request 68b.** To EKPC's knowledge, has the addition of new load from cryptocurrency operations caused or contributed to potential or actual loading issues for delivery points to owner-members? If so, please identify each such instance, the impacted delivery point(s), and the impacted owner-member(s); and explain in detail the measures undertaken by EKPC in response.

**Response 68b.** The addition of new load from cryptocurrency operations has not caused or contributed to potential or actual loading issues for delivery points to EKPC owner-members.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 69**

**RESPONSIBLE PERSON: Darrin Adams, Julia Tucker**

**Request 69.** Refer to Section 6.0 Transmission and Distribution Planning at page 134, particularly the discussion of planned improvements to EKPC distribution substations for the 2022–2025 period, and Tables 6-10 and 6-11.

**Request 69a.** Among these planned improvements and additions to EKPC distribution substations, please identify each project necessary to meet growing member demand, including identification of the specific owner-member(s)

**Response 69a.** The following planned improvements and additions to EKPC distribution substations are necessary to meet growing member demand:

<b>Project Description</b>	<b>Owner-Member Served</b>
Construct a new Speedwell Road 69-25 kV 18/24/30 MVA Distribution Substation and associated 69 kV tap line to Crooksville (4.79 miles).	Blue Grass Energy

Construct a new Dahl Road 69-12.5 kV 12/16/20 MVA Distribution Substation, tapping the existing Asahi Motor Wheel-Shopville 69 kV line section (0.1 mile)	South Kentucky RECC
Construct a new Mineola Pike 69-12.5 kV 12/16/20 MVA Distribution Substation and associated 69 kV tap line to the Hebron 69 kV substation (8 miles)	Owen Electric Cooperative
Construct a new Wieland 69-25 kV 18/24/30 MVA Distribution Substation by looping it into the existing Bekaert-Budd 69 kV line section (1.2 miles)	Shelby Energy Cooperative

**Request 69b.** Among these planned improvements and additions to EKPC distribution substations, please identify each project intended to serve new load from cryptocurrency mining operations.

**Response 69b.** No projects identified in Tables 6-10 and 6-11 are intended to specifically serve new load from cryptocurrency mining operations. EKPC does not characterize its load by use and, therefore, would only have awareness of cryptocurrency mining operations by persons that identify themselves as such.

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**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 70**

**RESPONSIBLE PERSON: Darrin Adams**

**Request 70.** Refer to the bulleted list of transmission expansion projections from 2019-2021, provided at page 127 of the 2022 IRP.

**Request 70a.** For each listed project, please specify whether it was required to meet PJM criteria or EKPC's criteria to meet local planning needs (as discussed at the top of page 125).

**Response 70a.** The bulleted list of EKPC transmission expansion for the 2019-2021 period that is provided at page 127 is a summary of all transmission projects completed during that period; each bullet does not necessarily correspond with a single project. For the 2019-2021 period, 23 transmission expansion projects were completed. Of these 23 projects, two were identified to address PJM planning-criteria violations. The remaining 21 were needed to address EKPC-identified needs.

**Request 70b.** Please identify which among the listed projects are “supplemental projects” (i.e., projects resulting from local planning criteria that are provided to PJM for inclusion in the RTEP).

**Response 70b.** Of the 23 transmission expansion projects completed in the 2019-2021 period, 14 are supplemental projects that were provided to PJM for inclusion in the RTEP.

**Request 70c.** For each listed project, please describe in full the process and methodology used to determine need, costs, and benefits.

**Response 70c.** Project need is determined by submittal of a problem statement by EKPC personnel with expertise regarding transmission line and transmission/distribution substation planning, maintenance, and operations. The problem statement is reviewed and approved by appropriate EKPC management for development of potential solutions. During development of potential solutions, cost estimates are created. EKPC subject matter experts also identify the expected benefits of each potential solution. These potential solutions, including cost estimate and expected benefits for each, and the recommended solution for implementation are presented to EKPC management for approval.



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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 71**

**RESPONSIBLE PERSON: Darrin Adams**

**Request 71.** Refer to the bulleted list of transmission expansion projects from 2022 to 2024, provided at page 129 of the 2022 IRP.

**Request 71a.** For each listed project, please state whether it was developed through a regional planning process or a local planning process.

**Response 71a.** The bulleted list of EKPC transmission expansion for the 2022-2024 period that is provided at page 129 is a summary of all transmission projects expected to be completed during that period; each bullet does not necessarily correspond with a single project. All of the projects that are part of this summarized list are driven by EKPC criteria and supplemental needs. All of these projects either have been or will be incorporated into the PJM regional planning process through presentation of the projects at PJM stakeholder meetings.

**Request 71b.** For each listed project, please describe in full the process and methodology used to determine need, costs, and benefits.

**Response 71b.** Project need is determined by submittal of a problem statement by EKPC personnel with expertise regarding transmission line and transmission/distribution substation planning, maintenance, and operations. The problem statement is reviewed and approved by appropriate EKPC management for development of potential solutions. During development of potential solutions, cost estimates are created. EKPC subject matter experts also identify the expected benefits of each potential solution. These potential solutions, including cost estimate and expected benefits for each, and the recommended solution for implementation are presented to EKPC management for approval.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 72**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 72.** Please refer to Table 8-5 and provide a description of the difference between the Power Purchase Agreement (“PPA”) and “Seasonal PPA” resources.

**Response 72.** A Seasonal PPA refers to an energy purchase for the winter period only. A Power Purchase Agreement is a product that is intended to provide energy over the entire year.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 73**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 73.** Refer to page 8 of the IRP where it is stated that EKPC, "...expects to utilize PPAs to cover the future winter period needs for a hedge against energy price exposure and solar PPAs to meet its sustainability goals on an economic basis. Did the Company incorporate the probability of dispatch of the Solar PPAs during the winter peak into its modeling? If so, please provide the estimated capacity factors of Solar PPAs during these times.

**Response 73.** The expected output of solar in the EKPC territory was used in the RTSim dispatch model. The expected output is based on historical irradiance data. So the solar energy was assumed to be generating during the daylight hours in the winter period. EKPC's winter peak typically occurs at either 07:00 or 18:00, morning and evening peaks. The sun is not shining during the normal winter peak periods. Therefore, no capacity value was assigned to the solar PPAs for being able to meet the winter peak loads.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 74**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 74.** Refer to page 58 of the IRP where it is stated: Solar PPAs were based on expected costs from a recent RFP for solar energy. The PPAs were allowed to annually enter into the model throughout the study period of the capacity expansion study. This allowed solar energy to be compared with market purchases and natural gas resources.

**Response 74.** Yes.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 75**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 75.** Please provide the following information:

**Request 75a.** The results of the aforementioned RFP for solar energy.

**Response 75a.** EKPC is currently still evaluating the results from this RFP, no report is available yet.

**Request 75b.** The energy prices against which the solar PPAs were compared in spreadsheet format with all formulas and links intact.

**Response 75b.** The solar PPAs were not compared against anything in a spreadsheet format. The solar PPAs were included as an option in the RTSim model.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 76**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 76.** Does the Company anticipate securing the firm capacity rights in the execution of future Solar PPAs? Please explain in full.

**Response 76.** The capacity value of any solar PPA will be negotiated as part of the product pricing at the time the offer is being reviewed. Firm capacity may or may not be a part of all PPAs.

**Request 76a.** Please provide a narrative for the Company's plans in securing the firm capacity of future Solar PPAs.

**Response 76a.** The resource will be entered into the PJM market on a case by case review.

**Request 76b.** If the Company does not anticipate securing the firm capacity of future Solar PPAs, is it the Company's intention to register the Solar PPAs as energy-only resources in the PJM footprint?

**Response 76b.** The resource will be entered into the PJM market on a case by case review.



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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 77**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 77.** At page 59 of the IRP Vol.1, EKPC states “The merchant solar facilities are not being built to serve EKPC load.” Please explain what is meant by this statement. What purpose do these facilities then serve?

**Response 77.** Merchant solar facilities are built by investors that are seeking to sell their product at a profit and meet market demand for renewable energy and capacity. These merchants are not building facilities for the sole purpose of serving EKPC load even though they are connecting to the EKPC transmission system. They connect to the EKPC transmission system to gain access to the PJM market.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 78**

**RESPONSIBLE PERSON:            Julia Tucker**

**Request 78.**            Please explain why EKPC participates in the RPM rather than satisfying its capacity load obligation through the Fixed Resource Requirement option.

**Response 78.**            Please see EKPC's response to the Attorney General's Request 17.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 79**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 79.** At page 44 of the IRP Vol. 1, EKPC states that the RPM auction “compensates EKPC for any additional capacity supply resources that clear in the auction.” Please explain why excess supply resources can produce revenue to EKPC but energy efficiency cannot (see page 33).

**Response 79.** The capacity supply resources referenced in this statement have previously cleared a PJM Reliability Pricing Model (“RPM”) auction and have been committed as resources available to serve PJM load.

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JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022

REQUEST 80

RESPONSIBLE PERSON: Michelle K. Carpenter

**Request 80.** Please provide annual net revenues for 2019, 2020, and 2021 by product type, e.g., capacity, energy, A/S, for each of EKPC’s generating units.

**Response 80.** EKPC does not account for revenues at the generating unit level. However, in an effort to be responsive to this request, provided below is a summary of EKPC’s operating revenues for each of the last three respective years by major revenue stream (dollars in thousands):

	Year Ended December 31		
	2021	2020	2019
Member electric sales	\$ 887,525	\$ 752,792	\$ 825,410
Non-member sales:			
Electric	43,074	18,340	19,580
Capacity	16,468	10,865	6,330
Other	5,556	5,675	8,803
Total operating revenues	<u>\$ 952,623</u>	<u>\$ 787,672</u>	<u>\$ 860,123</u>

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 81**

**RESPONSIBLE PERSON: Darrin Adams, Julia Tucker**

**Request 81.** In its 2022 IRP, EKPC repeatedly discusses its belief that conventional generation resources will continue to be required to facilitate the transition to renewable and low/no carbon emitting resources. *E.g.*, 2022 IRP at 36, 40, 160. Please answer the following:

**Request 81a.** Please provide EKPC's analysis of potential reliability problems in its territory as a result of increased levels of renewable generation.

**Response 81a.** EKPC has not completed a formal analysis.

**Request 81b.** Has EKPC estimated, forecasted, or otherwise sought to identify what level of development of renewable generation resources it believes would cause reliability problems.

**Request 81b.** No.

**Request 81c.** Please describe EKPC’s efforts to facilitate transmission planning necessary to enable greater levels of renewable integration.

**Response 81c.** EKPC participates in the PJM transmission planning process for generation interconnection requests within the PJM footprint. Through this participation, EKPC identifies necessary transmission-system additions and upgrades to interconnect new generation facilities to the EKPC transmission system. This has resulted in development of transmission plans to interconnect more than 5,000 MW of potential renewable generation to the EKPC transmission system to-date.

**Request 81d.** Does EKPC agree that regional transmission planning processes are an important component of ensuring reliability and minimizing the cost of any transmission expansion or transmission upgrades needed to enable greater levels of renewable generation. Please explain the basis for your agreement or disagreement in full.

**Response 81d.** EKPC agrees with the statement. PJM, which is EKPC’s regional transmission planner, published a paper in December 2021 titled “Renewable Integration

in PJM: Frameworks for Analysis,” available at <https://www.pjm.com/-/media/library/reports-notice/special-reports/2021/20211215-energy-transition-in-pjm-frameworks-for-analysis.ashx>. This paper is meant to provide information on PJM’s efforts to study the potential impacts associated with the evolving resource mix within the PJM market. In this document, PJM identifies five key focus areas, one of which is described as follows – *“Thermal generators provide essential reliability services and an adequate supply will be needed until a substitute is deployed at scale.”* (see page 2 of the referenced paper). The discussion of this focus area includes the following statement:

*“Given that the behavior of inverter-based resources is vastly different from that of traditional spinning-mass generators, the qualitative assessment revealed that, absent any reform, as the penetration of renewable resources increases, there is an overall decline in essential reliability services.”* (see page 2 of the referenced paper).

Therefore, EKPC’s statements provided in the IRP regarding the continued need for conventional thermal generation resources are supported by the documented position of EKPC’s regional transmission planner.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 82**

**RESPONSIBLE PERSON: Scott Drake**

**Request 82.** Refer to the 2022 IRP at page 2, stating that “[a]nother strategic objective is to continue to ensure reliability and affordability of electric service while supporting beneficial electrification and thoughtfully responding to growing pressures to carbonize.” Please describe in full EKPC’s efforts to support beneficial electrification.

**Response 82.** EKPC is evaluating an EV Home Charging demand response pilot program. The program, if approved by the Commission, benefits the utility by shifting EV load to off-peak. It will benefit the retail member by providing an incentive from the utility to charge the EV during off-peak hours.

EKPC promoted to Diageo, a new bourbon distillery, the concept of using electrode boilers instead of gas-fired boilers. That caused the facility to be almost 100% electric. That allowed the facility to contract through EKPC and Inter-County Energy to obtain 100% of their energy supply from renewable resources. The process for Diageo to obtain the renewable resources is via the “Green Energy Tariff.”



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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 83**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 83.** Refer to the 2022 IRP at pages 164-165, reporting that “[t]here are currently approximately 9,023 kW of solar voltaic installations within the EKPC service territory taking advantage of the member cooperatives’ net metering tariff. This number continues to grow as solar voltaic prices continue to decrease.”

**Request 83a.** Has EKPC or its sixteen owner-member cooperatives attempted to forecast distributed solar generation? If so, please provide each such forecast, including supporting workpapers in native format with formulae intact. If not, please explain why not.

**Response 83a.** No.

**Request 83b.** How many metered retail customers are currently using the member cooperatives’ net metering tariff?

**Response 83b.** As of the latest survey in November 2021, there are 1,172 net metered installations in the EKPC system.

**Request 83c.** Please explain in full detail how the expected growth in distributed solar generation is incorporated into the load forecast used in this IRP.

**Response 83c.** There are no assumptions of distributed solar generation in the load forecast.

**Request 83d.** Has EKPC prepared or caused to be prepared an analysis of the potential grid resilience and reliability benefits of distributed solar generation in its territory? If so, please produce that analysis. If not, please explain why not.

**Response 83d.** No, EKPC has not prepared such analysis.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 84**

**RESPONSIBLE PERSON: Scott Drake**

**Request 84.** Please explain in detail efforts undertaken by EKPC to encourage participation in its Green Energy Tariff.

**Response 84.** EKPC works with the owner-members' key account representatives to educate the end-use members about the opportunity. EKPC created a website [www.envirowattsky.com](http://www.envirowattsky.com) that provides information and an online sign-up portal for retail members interested in the Green Energy Tariff Option A – Envirowatts. EKPC is expanding the website to provide Options B & C information for C&I members.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 85**

**RESPONSIBLE PERSON: Scott Drake**

**Request 85.** Refer to page 59 of the 2022 IRP, stating “EKPC continually monitors the solar share program and the interest in that program. Based on participation to date, EKPC does not anticipate expanding that program within the planning horizon of this IRP.”

**Request 85a.** Is the “solar share program” synonymous with the Green Energy Tariff? If not, please clarify and explain in full.

**Response 85a.** No. The solar share program is the community solar program, branded Cooperative Solar, offered under EKPC’s Rate CS – Community Solar Power Generation. The “Green Energy Tariff” is EKPC’s Rate H – Wholesale Renewable Energy Program. Both tariffs can be found on the Commission’s website.

**Request 85b.** Please provide the participation levels in the solar share program over the most recent 5 years.

**Response 85b.**

<b>Year</b>	<b>New Participants</b>	<b>Panels Licensed</b>
2017	111	626
2018	55	275
2019	26	65
2020	10	60
2021	22	467
<b>Total</b>	<b>224</b>	<b>1493</b>

**Request 85c.** Please provide EKPC’s forecast of participation in the solar share program over the planning horizon of this IRP.

**Response 85c.** EKPC assumes no formal forecast. Expectations are similar to previous participation rates per year.

**Request 85d.** Please specify the level of interest in the program that, in EKPC’s view, would justify expanding the program.

**Response 85d.** When the vast majority of the panels are licensed, EKPC may consider a Cooperative Solar Farm #2.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 86**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 86.** Please provide the forecasted emissions from EKPC's generation portfolio on an annual basis over the IRP planning period, including, as applicable, carbon dioxide, carbon monoxide, methane, particle pollution, sulfur dioxide, nitrogen oxide, mercury, and arsenic.

**Response 86.** Each unit is compliant with all emission regulations. Total emission output will be directly dependent on how the unit is dispatched within the PJM market.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 87**

**RESPONSIBLE PERSON: Darrin Adams**

**Request 87.** Please provide a ranked list of the ten worst performing circuits since the beginning of 2020 in terms of (a) frequency of outages and (b) duration of outages.

**Response 87.** EKPC maintains a list of its worst-performing transmission circuits that serve customers (i.e., those with connected distribution substations), on a five-year rolling basis. The most recent five-year period for which EKPC has data is 2017-2021. For this period, the lists of the ten worst-performing EKPC circuits in terms of frequency of outages and total consumer hours out are:

<b>A. <u>Frequency of Outages</u></b>	<b>B. <u>Consumer-Hours Interrupted</u></b>
Lynch KU-Oven Fork 69 kV	Three Links Junction-Tyner 69 kV
Carrollton KU-Bedford 69 kV	Boone County-Owen County 69 kV
Boone County-Owen County 69 kV	Carrollton KU-Bedford 69 kV
Three Links Junction-Tyner 69 kV	Pulaski County-Somerset-Walnut Grove 69 kV



Pulaski County-Somerset-Walnut Grove 69 kV	Elizabethtown-Rogersville KU 69 kV
Denny-McCreary County 69 kV	Denny-McCreary County 69 kV
Fawkes KU-West Berea 69 kV	Laurel County-North London 69 kV
Hope-Morgan County 69 kV	Fawkes KU-West Berea 69 kV
McCreary County-Wofford KU 69 kV	Beattyville-Tyner 69 kV
Goddard-Hope 69 kV	East Bardstown-Balltown 69 kV

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 88**

**RESPONSIBLE PERSON: Darrin Adams**

**Request 88.** Using data since the beginning of 2020 to the present, please identify the ten zip codes with the highest SAIFI and the ten zip codes with the lowest SAIFI.

**Response 88.** EKPC does not track SAIFI. However, EKPC maintains a list of distribution substation outages on a five-year rolling basis. The most recent five-year period for which EKPC has data is 2017-2021. For this period, the zip codes with the highest number of substation outages are:

*42501, 42701, 40165, 40403, 40769, 41056, 42718, 40033, 40360, 40962*

For this period, the zip codes with no substation outages are:

*40003, 40023, 40067, 40110, 40311, 40312, 40330, 40359, 40370, 40372, 40409, 40601,  
40744, 40906, 40915, 41041, 41095, 41175, 41602, 42565, 42713, 42765*

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 89**

**RESPONSIBLE PERSON: Julia Tucker**

**COMPANY: East Kentucky Power Cooperative, Inc.**

**Request 89.** Refer to page 179 of the IRP, acknowledging that “EKPC’s service area includes a significant number of end users in economically distressed communities.”

**Request 89a.** Please list the census tracts in EKPC’s service area where these economically distressed communities are located. If not available by census tract, please respond using the most granular geographic scale available.

**Request 89b.** Please state the estimated number of end users in economically distressed communities and the forecasted rate of load growth in those communities.

**Request 89c.** In EKPC’s reply comments in FERC Docket No. RM21-17 (filed November 30, 2021), the Company noted its “unique position of being a member-owned generation and transmission owning electric cooperative serving the needs of customer owned distribution cooperatives in rural Kentucky, including populations that spend over

30% of their income on energy.” Please provide EKPC’s analysis of energy burden in its service territory.

**Response 89a-c.** EKPC does not maintain income level data on its owner members and does not have the level of requested data. The statement in reference to the FERC case is based on publicly available information.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 90**

**RESPONSIBLE PERSON: Scott Drake, Julia Tucker**

**Request 90.** Refer to EKPC’s Sustainability Plan, including commitments to achieve a 35% reduction in CO2 emissions by 2035 and a 70% reduction in CO2 emissions by 2050.

**Request 90a.** Please state the baseline emission year.

**Response 90a.** The baseline year is 2010.

**Request 90b.** Please state EKPC’s actual CO2 emissions in the baseline year.

**Response 90b.** The total EKPC emission of CO2 in 2010 was 13,432,476 tons.

**Request 90c.** Please explain in full detail how EKPC selected the above-referenced percentage reduction thresholds, including an explanation of why the selected thresholds are appropriate targets for EKPC.

**Response 90c.** The 2035 target of 35% reduction in CO2 is based on having achieved the 15% new renewables goal and minimal hours of operation at Cooper Station. The 2050 target of 70% assumed the retirement of both Spurlock and Cooper Stations (which were not assumed within the scope of this IRP).

**Request 90d.** Is EKPC also pursuing targeted reductions of other greenhouse gas emissions, including methane emissions, for example? Please explain in full.

**Response 90d.** No.

**Request 90e.** In EKPC's estimation, is the portfolio reflected in this IRP capable of achieving a 35% reduction in CO2 emissions by 2035? Please explain in full including production of workpapers and supporting analyses demonstrating achievability.

**Response 90e.** Yes, the target of 35% reduction was included in the modeling process by emissions optimization feature of the RTSim system. The target amount was entered for the target year and the model optimized to that target.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 91**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 91.** Refer to EKPC’s Sustainability Plan, particularly the commitment to obtain 10% of energy from new renewables by 2030, and to obtain 15% of energy from new renewables by 2035.

**Request 91a.** Please explain what is intended by “new renewables” including identification of the baseline year.

**Request 91b.** Please explain in full detail how EKPC selected the above-referenced percentage reduction thresholds.

**Request 91c.** In EKPC’s estimation, is the portfolio reflected in this IRP capable of achieving a 10% increase in energy from new renewables by 2030? Please explain in full including production of workpapers and supporting analyses demonstrating achievability.



**Request 91d.** In EKPC's estimation, is the portfolio reflected in this IRP capable of achieving a 15% increase of energy from new renewables by 2035? Please explain in full including production of workpapers and supporting analyses demonstrating achievability.

**Response 91.** Please see the responses below.

- a) New renewables – resources not in use/contract prior to 2019.
- b) See EKPC response to AG Request 12a.
- c) Expected solar projects via PPAs make the target of new energy possible.
- d) Thresholds in 2035 are planned in this IRP, a snap shot in time, and if the planned additions are achieved, the target will be reached.

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**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 92**

**RESPONSIBLE PERSON:**           **Scott Drake**

**Request 92.**           Please list which among EKPC’s owner-members offer the Kentucky Energy Retrofit Rider or comparable pay-as-you-save or on-bill financing program, and answer the following questions:

**Response 92.**           The owner-members offering the Kentucky Energy Retrofit Rider are Big Sandy Rural Electric Cooperative Corporation (“RECC”), Famers RECC, Fleming-Mason Energy, Grayson RECC, Jackson Energy Cooperative, and Licking Valley RECC.

**Request 92a.**           For each participating owner-member and in the aggregate, please provide the following information on an annual basis for each of the most recent three years:

- i. Number of homes that completed an energy assessment.
- ii. Number of homes that completed a retrofit.
- iii. Number of accounts in default.
- iv. Dollar amount in default.
- v. Average capital cost per retrofit.
- vi. Projected savings in kWh.

- vii. Projected bill savings for retail participants.
- viii. Average monthly on-bill charge.

**Response 92a.**

- i. Number of homes that completed an energy assessment.
  - a. 2019: 8
    - i. Big Sandy RECC : 1
    - ii. Fleming Mason Energy: 4
    - iii. Licking Valley RECC: 3
  - b. 2020: 3
    - i. Fleming Mason Energy: 2
    - ii. Licking Valley RECC: 1
  - c. 2021: 1
    - i. Fleming Mason Energy: 1
- ii. Number of homes that completed a retrofit.
  - a. 2019: 4
    - i. Big Sandy RECC: 1
    - ii. Fleming Mason Energy: 2
    - iii. Licking Valley RECC: 1
  - b. 2020: 2
    - i. Fleming Mason Energy: 1
    - ii. Licking Valley RECC: 1

- c. 2021: 1
  - i. Fleming Mason Energy: 1
- iii. Number of accounts in default.
  - a. There are currently 3 inactive accounts. However, none of the retrofits completed in 2019, 2020 or 2021 are inactive. These accounts will remain in inactive status for 24 months or until the account becomes active. If they remain inactive past the waiting period the risk mitigation fund will reimburse the funds to the cooperative.
    - i. 2019: 0
    - ii. 2020: 0
    - iii. 2021: 0
- iv. Dollar amount in default.
  - a. Total for the 3 inactive accounts is \$4,756.05
    - i. Fleming Mason Energy: \$2,037.20
    - ii. Farmers RECC: \$813.84
    - iii. Grayson RECC: \$1,905.01
- v. Average capital cost per retrofit.
  - a. 2019: \$5,708.02
    - i. Big Sandy RECC: \$7,089.98
    - ii. Fleming Mason Energy: \$ 5,298.36
    - iii. Licking Valley RECC: \$5,145.39

- b. 2020: \$6,994.97
  - i. Fleming Mason Energy: \$5,849.55
  - ii. Licking Valley RECC: \$8,140.38
- c. 2021: \$5,171.25
  - i. Fleming Mason Energy: \$5,175.25
- vi. Projected savings in kWh.
  - a. 2019: 25,875 kWh Annual
    - i. Big Sandy RECC: 7,350 kWh
    - ii. Fleming Mason Energy: 13,353 kWh
    - iii. Licking Valley: 5,172 kWh
  - b. 2020: 14,146 kWh Annual
    - i. Fleming Mason Energy: 7,236 kWh
    - ii. Licking Valley: 6,910 kWh
  - c. 2021: 6,127 kWh Annual
    - i. Fleming Mason Energy: 6,127 kWh
- vii. Projected bill savings for retail participants.
  - a. 2019: \$217.19 Monthly
    - i. Big Sandy RECC: \$67.38
    - ii. Fleming Mason Energy: \$122.40
    - iii. Licking Valley RECC: \$47.41
  - b. 2020: \$129.67 Monthly
    - i. Fleming Mason Energy: \$66.33
    - ii. Licking Valley RECC: \$63.34

- c. 2021: \$56.16 Monthly
  - i. Fleming Mason Energy: \$56.16
- viii. Average monthly on-bill charge.
  - a. 2019: \$48.46
    - i. Big Sandy RECC: \$58.69
    - ii. Fleming Mason Energy: \$49.80
    - iii. Licking Valley RECC: \$35.53
  - b. 2020: \$56.35
    - i. Fleming Mason Energy: \$56.48
    - ii. Licking Valley RECC: \$56.22
  - c. 2021: \$49.93
    - i. Fleming Mason Energy: \$49.93

**Request 92b.** Please provide the forecasted participation and savings rates over the IRP planning period, including production of associated workpapers in native format with formulae intact.

**Response 92b.** No forecast has been completed.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 93**

**RESPONSIBLE PERSON: Fernie Williams**

**Request 93.** Please list the qualified facilities (under the Public Utilities Regulatory Policies Act) that EKPC currently obtains energy or capacity from, including the following details:

- a. Generation type
- b. Facility ICAP
- c. Facility UCAP
- d. Contract term
- e. Expected useful life

**Response 93.** Please see the responses below.

1. Cox
  - a. Biomass
  - b. 4MW
  - c. 4MW
  - d. Initial term: 5 years
  - e. 30 years
  
2. National Guard, Morehead
  - a. Solar
  - b. 89.67kWdc
  - c. 89.67kWdc
  - d. Initial term: 5 years
  - e. 30 years

3. National Guard, Monticello
  - a. Solar
  - b. 64.05kWdc
  - c. 64.05kWdc
  - d. Initial term: 5 years
  - e. 30 years
  
4. Mac Farms
  - a. Biodigester
  - b. 200kW
  - c. 200kW
  - d. Initial term: 5 years
  - e. 30 years
  
5. Swope Hyundai
  - a. Solar
  - b. 150kW
  - c. 150kW
  - d. Initial term: 5 years
  - e. 30 years
  
6. Swope Toyota
  - a. Solar
  - b. 275kW
  - c. 275kW
  - d. Initial term: 5 years
  - e. 30 years



**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 94**

**RESPONSIBLE PERSON: Julia Tucker**

**Request 94.** Please provide EKPC's forecasted potential to obtain energy from PURPA qualified facilities over the IRP planning period. If no such forecasting attempt was made as part of this IRP exercise, please explain in full why not.

**Response 94.** EKPC does not forecast PURPA qualified facilities.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 95**

**RESPONSIBLE PERSON: Julia Tucker**

**COMPANY: East Kentucky Power Cooperative, Inc.**

**Request 95.** Refer to EKPC’s acknowledgement, at page 56 of the 2022 IRP, “that market and fuel prices levels at the end of March 2022 are significantly higher than they were in the Fall 2021, when EKPC developed the price assumptions for this study. The bulk of the differences would impact the short term operations, but the market is expected to eventually turn back towards the price assumptions used in the study.”

**Request 95a.** Please define the time period contemplated by the phrase “short term operations” as used in the above-referenced statement.

**Response 95a.** The Henry Hub gas prices show natural gas prices declining in April 2023. Electric market prices are projected to follow that trend.

**Request 95b.** Please define the time period contemplated by the phrase “eventually” as used in the above-referenced statement (e.g., number of days, weeks, months, or years).

**Response 95b.** Price forecasts revert to similar levels as those used in this analysis within two years, so by 2024 the pricing forecasts are similar.

**Request 95c.** Please explain in full detail EKPC’s basis for expecting that the market will “eventually turn back towards the price assumptions used in the study.” Please produce the documentation, analyses, and reports relied on by EKPC in forming this expectation.

**Response 95c.** Energy market prices generally follow the natural gas price trends. Natural gas price forwards are trading below \$5.00/dth in 2024.

**Request 95d.** In EKPC’s estimation, what factors contributed to the market and fuel price levels observed at the end of March 2022? Please explain.

**Response 95d.** Based on industry reports, high export fuel prices, limited availability of fuels and transportation, along with the war between Russia and Ukraine, contributed to the market and fuel prices observed in March 2022.

**Request 95e.** Has EKPC performed an analysis of risk exposure should high market or fuel prices continue? If so, please explain the methodology, inputs, and results, and provide associated workpapers. If not, why not?

**Response 95.e** EKPC has provided all of its current long term analysis in the 2022 IRP.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 96**

**RESPONSIBLE PERSON: Mark Horn**

**Request 96.** Please list the currently effective coal supply contracts, including the following details for each: month/year of execution; annual delivery volumes; cost per ton; and term.

**Response 96.** Please see page 2 of this response.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

<u>Supplier</u>	<u>Month/Year Executed</u>	<u>2022 Annual Delivery Tons</u>	<u>Cost Per Ton</u>	<u>Term</u>
<b><u>Spurlock Unit Nos. 1 &amp; 2</u></b>				
Alpha Thermal Coal Sales (538)	09/2017	240,000	\$40.00	01/01/18—12/31/22
Alliance Coal, LLC (542)	08/2018	264,000	\$42.00	01/01/19—12/31/24
Foresight Coal Sales, LLC (550)	09/2020	264,000	\$29.25	01/01/21—12/31/23
Foresight Coal Sales, LLC (552)	11/2020	264,000	\$28.50	01/01/21—12/31/22
Alliance Coal, LLC (554)	11/2020	924,000	\$36.00	01/01/21—12/31/24
Foresight Coal Sales, LLC (556)	04/2021	264,000	\$31.25	01/01/22—12/31/24
<b><u>Spurlock Unit Nos. 3 &amp; 4</u></b>				
B & N Coal, Inc. (824)	12/2012	240,000	\$51.49	04/01/14—03/31/24
B & N Coal, Inc. (832)	11/2015	120,000	\$51.49	01/01/16—12/31/23
Alliance Coal, LLC (838)	08/2018	264,000	\$42.00	01/01/19—12/31/24
CCU Coal & Construction, LLC (836)	09/2018	360,000	\$46.26	01/01/19—12/31/23
B & N Coal, Inc. (840)	10/2020	120,000	\$44.70	01/01/21—12/31/24
Foresight Coal Sales, LLC (842)	09/2021	132,000	\$34.75	01/01/22—12/31/24

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2022-00098**

**FIRST INFORMATION REQUEST RESPONSE**

**JOINT INTERVENORS REQUEST FOR INFORMATION DATED 06/30/2022  
REQUEST 97**

**RESPONSIBLE PERSON: Mark Horn**

**Request 97.** Please identify the month/year of EKPC's most recent RFP for coal supply contracts and summarize the responses received, including offered tonnage, delivered price per ton, and term.

**Response 97.** The most recent RFP for coal supply contracts was dated June 21, 2022. Please see page 2 of this response for the summary of responses.

*Confidential protection of the bid tabulation sheet or corresponding documents that ranked the proposals has been requested in the form of a motion for confidential treatment.*

