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 ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION TO EAST KENTUCKY POWER COOPERATIVE, INC. DATED JUNE 29, 2022

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**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Chris Adams, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Attorney General's 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 KENTUCKY POWER COOPERATIVE, INC.	))	**CASE NO. 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 Attorney General's 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.

Darrin Adams

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 KENTUCKY POWER COOPERATIVE, INC.	))	**CASE NO. 2022-00098**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Denise Foster Cronin, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Attorney General's 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.

Denise Foster Cronin

Subscribed and sworn before me on this 21st day of July, 2022.

William Blake Kinney
Notary Public

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**

CERTIFICATE

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 Attorney General's 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.

Scott Drake

Subscribed and sworn before me on this 21st 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 KENTUCKY POWER COOPERATIVE, INC.	))	**CASE NO. 2022-00098**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Craig Johnson, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Attorney General's 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 KENTUCKY POWER COOPERATIVE, INC.	**)** **)**	**CASE NO. 2022-00098**

CERTIFICATE

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 Attorney General's Data Requests in the above-referenced case dated June 28, 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.

Julia J. Tucker

Subscribed and sworn before me on this 21st day of July, 2022.

Notary Public

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

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 1
RESPONSIBLE PERSON: Julia Tucker

Request 1. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, page 2. EKPC states that it is "concerned about future reliability of the interconnected electric system and believes that conventional generation resources will continue to be required to facilitate the transition to renewable and low/no carbon emitting resources. Conventional generation resources will be required to maintain reliability as the transition occurs."

Request 1a. Expound on this statement by identifying and discussing the concerns that EKPC has for future reliability of the electric grid.

Response 1a. EKPC believes the grid can and will transition to newer and cleaner technologies but prematurely closing conventional plants will cause disruption and added expense to the electric grid. Intermittent resources such as wind and solar cannot provide electric energy on demand, as they are dependent on when the fuel source

is available, i.e. wind blowing and sun shining. Conventional generation resources allow the system to accommodate renewables and the intermittent nature of these resources without causing reliability concerns. Battery technology has not yet matured such that batteries can provide short falls in energy due to low or no production from renewables during all times of the day.

Existing base load plants have available fuel stored at the facility or have firm gas supply contracts. At this time, intermittent resources cannot reliably support the system without conventional resources to fall back on. Additionally, combustion turbines will provide a key component to the reliable operation of the electric grid as the load to generation balance shifts throughout the day. Combustion turbines will be needed to follow the load and ramp up when the load curve out strips the available resources.

EKPC believes that it is not prudent to prematurely retire conventional resources until adequate renewables are installed, battery technology matures, and these resources prove they can supply the real time energy for system reliability at reasonable cost.

Request 1b. Given the growing number of retirements of coal and gas-fired generation units within the PJM footprint, explain whether EKPC's concerns regarding the future reliability of the interconnected electric system also include the PJM footprint.

Response 1b. PJM is transitioning at a slower rate to intermittent resources than are some neighboring systems. However, EKPC does believe the long-term reliability

could be impacted if the transition moves forward at a faster rate. EKPC is active in policy making committees within PJM in an effort to ensure that reliability remains a key focus point for the RTO.

Request 1c. Specifically identify the conventional resources that EKPC believes will continue to be required to facilitate the transition to renewable and low/no carbon emitting resources.

Response 1c. Spurlock and Cooper Stations will both continue to be needed to supply large quantities of energy in a base load environment. The magnitude of energy capable of being produced at the Spurlock Plant cannot be replaced solely by renewable and demand resources. Cooper station provides key voltage support in the transmission area throughout Southern Kentucky. The current transmission system is not configured to support the peak load periods in that region without the generation injections at Cooper Station. The Smith and Bluegrass combustion turbines provide load following and voltage support resources at key peak load periods and will continue to be needed for that support going forward.

Request 1d. Explain why conventional generation resources are needed to maintain reliability as the transition occurs.

Response 1d. The electric grid is designed to provide large amounts of energy within seconds of load demands changing. The current usage patterns for electricity cause tremendous swings in the amount of energy needed minute by minute throughout each day. The system requires large amounts of generation resources that can swing with these demand changes. Providing energy strictly from non-dispatchable, intermittent resources will result in periods of severe under and over supply. The need for resources that can follow the load demand pattern, provide voltage support and quickly ramp up to higher generation levels will continue to be great. There may come a time when all of these attributes can be provided by renewable energy resources and demand management resources, but the technology is not here today nor is it on the near-term horizon.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 2
RESPONSIBLE PERSON: Julia Tucker

Request 2. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, page 2. EKPC states that it intends to actively manage its current and future asset portfolio to maintain high reliability of electric service to its owner-members. EKPC further asserts that it intends to economically diversify its energy resources, including market purchases, fossil fuels, renewables, storage, demand management and energy efficiency programs, and partnering opportunities.

Request 2a. Discuss in detail how EKPC intends to maintain high reliability of electric service to its owner-members.

Response 2a. PJM is EKPC's balancing authority and is responsible for the reliability of the electric grid. EKPC remains very active in PJM committee activities to ensure that the reliability of the system continues to be a focus of importance to PJM. Additionally, EKPC plans to secure enough resources either through ownership or power

purchases to provide adequate resources to supply its native load requirements. This means if EKPC were disconnected from PJM due to storms or other transmission issues, EKPC would plan to have adequate resources available closer to its load zone to continue to supply power to its Owner-Member Cooperatives ("owner-members").

Request 2b. Explain in detail how EKPC intends to economically diversify the following:

i. Market Purchases,
ii. Fossil Fuels,
iii. Renewables,
iv. Storage,
v. Demand Management,
vi. Energy Efficiency Programs, and
vii. Partnering Opportunities.

Response 2b. EKPC considers integrated planning through all of its resource decisions. Market Purchases are used to serve short term power supply needs or to supplement with energy that is more economic than running an owned unit. All options are evaluated on a long-term, total-cost basis. The most economic alternatives will be solicited. All long-term commitments are submitted to the Commission for review and approvals, as necessary.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 3
RESPONSIBLE PERSON: Julia Tucker

Request 3. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, pages 2 – 3. EKPC states that a strategic objective is to continue to ensure reliability and affordability of electric service while supporting beneficial electrifications and thoughtfully responding to growing pressures to decarbonize.

Request 3a. Explain in detail how EKPC plans to ensure reliability and affordability of electric service while supporting electrifications and decarbonizing.

Response 3a. EKPC will continue to be diligent in its resource planning practices. See Response 2b.

Request 3b. Explain in detail what EKPC means by beneficial electrifications.

Response 3b. Beneficial electrification refers to converting more carbon intensive technologies to electric technology. One example is a recent large distillery that decided it would use electric boilers in its process as opposed to gas boilers to lower its emissions output.

Request 3c. Explain how EKPC intends to thoughtfully respond to pressures to decarbonize.

Response 3c. Thoughtful decarbonization would be a departure from the current decarbonization path. The current path is to force retirement of conventional resources through stricter and stricter environmental regulations with little regard to how reliability of the grid will be maintained or how those decisions will impact consumers. EKPC, other utilities, and RTOs can add renewable energy resources and lessen the dependence on fossil fuels without prematurely retiring conventional resources and causing potential reliability issues. Areas of the United States that have prematurely retired their conventional energy resources are facing self-inflicted reliability issues created by not having adequate resources to supply energy when non-dispatchable resources cannot provide energy during critically high load periods. EKPC plans to add renewable resources to its portfolio to facilitate decarbonization. EKPC does not plan to prematurely retire plants that are compliant with environmental policy and are necessary to provide reliable service to its members.

Request 3d. Provide a list of the specific entities pressuring EKPC to decarbonize.

Response 3d. A number of the entities intervening in the EKPC IRP could be considered as pressuring EKPC to decarbonize.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 4
RESPONSIBLE PERSON: Julia Tucker

Request 4. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, pages 2 – 3. EKPC states that it will continue to manage reliability and minimize negative financial impacts to end consumers while supporting beneficial electrification that could generate exponential load growth, particularly through continuing penetration of electric vehicles, electrification of industrial processes, and electrification of residential and commercial heating applications.

Request 4a. Explain in detail how EKPC plans to manage reliability and minimize negative financial impacts to end customers while supporting electrification and decarbonization.

Response 4a. All of EKPC's existing generating resources currently meet all environmental regulations and reliably operate. EKPC will not prematurely retire these facilities but rather utilize them fully to the benefit of the owner-members that have

invested in the facilities. New facilities or purchases can be developed in a more carbon neutral manner and developed as needed. EKPC will seek to develop new facilities and/or purchases as its load requirements mandate.

Request 4b. Explain what electrification of industrial processes EKPC envisions.

Response 4b. Policy discussions indicate that pressure will be placed to move from current processes that utilize natural gas boilers and move to electric boilers. One retail member, a distillery, has installed electric boilers instead of gas boilers in order to reduce its emissions. EKPC envisions more conversions similar to this in the future.

Request 4c. Explain whether the increased load growth from the electrification of residential and commercial heating applications would stem from less natural gas availability in new homes and buildings. If not, provide a detailed response.

Response 4c. Yes, residential and commercial heating applications that currently use or are expected to use natural gas but instead are converted to electric heating applications. This could occur either due to less availability of natural gas or due to penalties or fees levied for using natural gas.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 5
RESPONSIBLE PERSON: Julia Tucker

Request 5. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, page 3. EKPC asserts that it will work with state, federal, regional, and PJM stakeholders to respond to the legal, regulatory, and industry pressures to decarbonize the fleet through solutions based on science and engineering that ensure electric service continues to be highly reliable and available at an acceptable cost to the public.

Request 5a. Explain in detail the solutions based on science and engineering that EKPC will utilize concerning decarbonization of its fleet.

Response 5a. All of EKPC's generating resources currently meet all regulatory regulations and operate in a reliable and dependable manner. EKPC does not plan to prematurely retire any resource based on today's operating requirements. As requirements change, EKPC will either retrofit its existing fleet to meet the regulations or

it will develop new resources to meet the regulations.

Request 5b. Explain in detail how EKPC will continue to have highly reliable electric service while decarbonizing its fleet.

Response 5b. EKPC does not plan to prematurely retire any resource based on today's operating requirements. As requirements change, EKPC will either retrofit its existing fleet to meet the regulations or it will develop new resources to meet the regulations. EKPC will continue to ensure that it has adequate power supply to serve its load, which in turn will secure reliability.

Request 5c. Explain in detail what EKPC believes is an acceptable cost to the public to decarbonize.

Response 5c. EKPC believes it continues to be held to a least cost doctrine by the Commission. EKPC believes that reliability cannot be compromised. EKPC's goal is to develop or purchase renewable energy such that it does not create an additional cost burden on its members. EKPC will pursue renewable energy that is cost competitive with the variable costs of operating its power plants or competitive with purchases from PJM.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 6
RESPONSIBLE PERSON: Julia Tucker, Scott Drake

Request 6. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, page 3.

Request 6a. Discuss the various factors that cause the forecasted total energy requirements to increase an average of 1.1% per year.

Response 6a. Residential energy is forecast to increase due to customer growth attributable to population and household projections. Residential energy use per customer remains flat throughout the forecast period due to increased appliance efficiency and saturations. Commercial and industrial consumers and energy are forecast to increase due to regional economic projections.

Request 6b. Provide a detailed breakdown of the $3 million energy efficiency budget from the GDS Associates, Inc. ("GDS") study.

Response 6b. The breakdown of the $3 million energy efficiency budget from the

GDS study can be found in Technical Appendix Volume 2 Demand Side Management, Exhibit DSM-1 EE Potential Report, Table 7-2 2022 “Program Budgets - by Spending Scenario”, and found on pages 38-39 of that Exhibit (pages 63-64 of the PDF document).

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

COMMISSION ATTORNEY GENERAL'S FIRST INFORMATION REQUEST
DATED 06/29/2022
REQUEST 7
RESPONSIBLE PERSON: Julia Tucker

Request 7. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, pages 4– 5. EKPC contends that its "PJM membership continues to drive significant beneficial operation changes and significant cost savings for the EKPC's owner- members." EKPC further asserts that substantial net savings realized through May 31, 2021, was identified in its annual report.

Request 7a. Provide a copy of the above-referenced annual report.

Response 7a. The above-referenced annual reports may be referenced publically in the Post Case Files in Case No. 2012-00169. The direct link to the Post Case Files is as follows: https://psc.ky.gov/Case/ViewCaseFilings/2012-00169/Post

Request 7b. Provide the net savings that EKPC realized from its PJM membership through May 31, 2021, and explain how the net savings was calculated.

Response 7b. The net savings are subject to confidential protection. The calculation methodology is explained within the annual reports under the section entitled, "Prior Year's Benefits and Costs of PJM Membership".

Request 7c. Explain in detail what significant beneficial operation changes have occurred due to EKPC's membership in PJM.

Response 7c. Membership in a much larger power pool has allowed EKPC to realize advantages associated with better optimized power supply dispatch. While operating on its own, EKPC was limited to using its own power supply resources or purchases it could make utilizing transmission that it had available to use for transactions. EKPC's fleet is mainly made up of coal-fired baseload and natural gas peaking units. By joining PJM, EKPC now has nuclear, natural gas combined cycle, solar, wind and other resources that can be optimized to supply the entire system. The economics of quantity of supply alternatives provided a much larger benefit than had originally been expected. The low natural gas prices prior to Fall 2021 offered EKPC the availability of lower cost energy without having to invest in new generating resources. EKPC's coal fired units no longer had to operate inefficiently to follow load, they could be utilized in a more economic fashion. Likewise, the combustion turbine units did not have to be dispatched just to follow load, they were now dispatched based on cost and not as much on reliability.

Request 7d. Explain in detail the significant cost savings that PJM membership provides to EKPC's owner-members.

Response 7d. EKPC has been able to supply energy to its owner members at a lower cost than what would have occurred with EKPC self-supplying all of its own energy resources. The market prices have been based on combined cycle efficient heat rates at low natural gas prices for the majority of time since EKPC joined PJM. EKPC owner-members were able to have energy supplied at the lower rates while not having to invest capital in a new unit. The market tightened in Fall 2021 and those favorable prices went away. However, EKPC still has its own resources that have continually set a cap on the maximum amount that has to be paid for energy.

PJM is a summer peaking RTO and requires its members to secure enough generation to meet their summer peak load plus reserve requirements. EKPC has extra capacity to sell to the market because its summer load is much less than its winter load. The revenue from these market sales have gone directly to paying debt and keeping that expense from going back to the owner-members. Secondly, EKPC has not had to carry as high of a reserve requirement in the winter period because it has the RTO to help secure its load requirements. That has also saved capital investments that the owner members have not had to finance.

Request 7e. Provide all costs from EKPC's membership in PJM that are borne

by the owner-members.

Response 7e. EKPC has shown a definite benefit for its PJM membership each year that it has been a member. The net cost / benefits flow to the owner-members. The individual categories of costs and benefits are described in the referenced annual reports.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 8
RESPONSIBLE PERSON: Julia Tucker

Request 8. Reference the May 17, 2022 PJM report, "Energy Transition in PJM: Emerging Characteristics of a Decarbonizing Grid," accessible at the link in the footnote below, at page 5.[1] Explain whether EKPC agrees that PJM is facing a shift in its resource adequacy risk from summer to winter, and if so, explain the implications for EKPC.

Response 8. As more and more coal plants retire within the PJM footprint, PJM becomes more dependent on natural gas for summer and winter generation. Natural gas generation can be exceptionally reliable. The natural gas supply chain delivers gas hour by hour. Coal is inventoried on site and is not as susceptible to supply chain interruptions. When EKPC experiences severe cold temperatures, gas generation plants compete with natural gas heating load for supply. This competition drives gas prices up and could cause supply disruptions for gas generation. Except for Smith 9 and 10, EKPC's gas generating units have dual fuel capability and fuel oil reserves on site.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 9
RESPONSIBLE PERSON: Julia Tucker

Request 9. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, page 5. Explain how EKPC takes measures to hedge its energy price exposure throughout the entire year.

Response 9. EKPC hedges its energy price exposure by ensuring it has enough generation resources to cover its load. If market prices are less than an EKPC resource, then the load will be served with market purchases. If market prices are greater than an EKPC resource, then the resource will be dispatched and paid market prices. The net cost to the owner-member is the cost to run the unit, not the higher market price. EKPC compares its resources to its load expectations all throughout the year and determines if there are adequate resources to cover the load exposure. If there are not adequate resources, or the resources do not have a firm fuel supply at a known price, EKPC will consider purchasing from the forward markets to hedge the maximum price that its owner-members might have to pay for energy.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 10
RESPONSIBLE PERSON: Julia Tucker

Request 10. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, page 8. EKPC states that it has sufficient capacity resources to meet its forecasted summer load peaks, but expects to utilize Power Purchase Agreements ("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.

Request 10a. Explain why EKPC has sufficient capacity resources to meet its forecasted summer load, but not its winter load.

Response 10a. EKPC is a winter peaking utility. Its winter peak is significantly higher than its summer peak load, roughly 30% higher.

Request 10b. Explain in full detail EKPC's sustainability goals.

Response 10b. The attachment to this response outlines EKPC's sustainability goals. The sustainability plan, individual team goals, and related data can be found at https://www.ekpc.coop/ekpc-planning-future.

Request 10c. Explain in full detail how EKPC plans to meet its sustainability goals on an economic basis.

Response 10c. EKPC will not buy or build renewable resources that are not economically justified. The resources must meet the same least cost planning criteria that all resources must meet. EKPC will demonstrate that it has met that criterion by submitting its analysis to the Commission for review and approval prior to committing to any new resource.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 11
RESPONSIBLE PERSON: Scott Drake

Request 11. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, page 11.

Request 11a. Identify the requests received from the large consumers to provide green energy options for the power supply.

Response 11a. EKPC and Inter-County Energy entered into an agreement with Diageo to supply Diageo with energy from a renewable resource. EKPC and its Owner-Members have had discussions of this option with several large industrial End-Use Retail Members ("retail members"). At this time, no additional agreements or commitments have been signed.

Request 11b. Explain how EKPC plans to "seek to secure the requested power supply alternatives."

Response 11b. The National Renewables Cooperative Organization ("NRCO"), on behalf of EKPC and Inter-County Energy issued a Request for Proposals ("RFP") to obtain the most cost-effective renewable resource for Diageo. Negotiations for that resource are ongoing. These negotiations have been significantly delayed by the PJM interconnection queue and the Department of Commerce investigation into solar panels. EKPC plans to issue RFPs for any large industrial retail members participating in the program unless EKPC has existing renewable energy resources that the participants agree fulfill their needs.

Request 11c. Explain whether the large consumers requesting green energy options will pay for 100% of the green energy costs.

Response 11c. The participating retail members will pay 100% of the cost to fulfill their renewable energy requirements in this program. No cross-subsidization will be allowed.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 12
RESPONSIBLE PERSON: Scott Drake

Request 12. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, pages 24 – 25.

Request 12a. Explain in detail how EKPC determined to set a 10% sustainability goal of new renewable energy by 2030.

Response 12a. RFPs for new solar PPAs had shown an all-in price for the energy to be competitive with other new energy resources. EKPC also noticed increased scrutiny in its carbon-based generation portfolio from credit rating agencies and financial institutions. For these reasons, EKPC considered a strategy to incorporate cost-effective solar energy resources into the generation portfolio. Generally, EKPC determined that offsetting some or all new energy sales (load growth) with solar PPAs is a cost-effective method to diversify the portfolio over time. New energy sales (load growth) is in the neighborhood of 10% by 2030 and 15% by 2035.

Request 12b. Explain in detail how EKPC determined to set a 15% sustainability goal of new renewable energy by 2035.

Response 12b. See response 12a.

Request 12c. EKPC asserts that in order to meet the 10% sustainability goal by 2030, it is adding solar PPAs.

i. Explain whether the solar PPAs will include battery storage, and if so, provide all cost estimates and studies regarding whether the addition of batteries will affect the project's cost-effectiveness. If battery storage is not included, explain why not.

ii. Explain the pros and cons of entering into a solar PPA instead of EKPC building a solar array.

Response 12c. i. Before agreeing to a solar PPA, EKPC issues an RFP to obtain the most cost-effective solar resource. Independent power producers responding to the RFP can offer battery storage as a component of their proposal(s). EKPC then evaluates all proposals for the most reasonable least-cost delivery of the renewable resource per kWh. If battery storage causes the solar PPA to be the most cost-effective, EKPC is inclined to contract for that proposal.

ii The federal government offers a significant tax break for solar installations. The tax break significantly lowers the overall cost of installation. EKPC is a not-for-profit cooperative and is a non-taxable entity. Therefore, EKPC utilizes a PPA process to take advantage of the tax credit. If the federal tax credits cease to exist, EKPC will likely evaluate building solar itself.

Request 12d. Explain in detail what EKPC needs to do in order to meet its 15% sustainability goal of new renewable energy by 2035.

Response 12d. EKPC achieves the goal by executing renewable energy PPAs identified in this IRP or constructing those resources itself.

Request 12e. EKPC asserts that in order to meet the 15% sustainability goal by 2035, it will need additional renewable energy, but the goal will be met in an economical manner. Explain how EKPC plans to ensure the additional renewable energy will be met in an economical manner.

Response 12e. The price for renewable generation has been on a declining curve until recently. EKPC has seen upward movement in wind and solar pricing. The renewable market is not liquid, therefore the best way to get price transparency is through RFPs. Renewable and conventional generation energy pricing has been volatile recently.

EKPC does not have enough data at this time to judge whether renewable pricing will continue to be competitive. EKPC's procurement goal for renewable energy is that renewable energy will be competitive with energy EKPC generates or purchases from the market. Acquiring renewables that have a price competitive with EKPC's other energy options will not produce a burden on EKPC's members.

Request 12f. Explain in detail whether EKPC is adding new renewable energy solely to meet EKPC's 10% and 15% sustainability goals, or whether the new energy is actually needed to serve its customers.

Response 12f. Please see the response to 12e.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 13
RESPONSIBLE PERSON: Julia Tucker

Request 13. Refer to Section 1.0, Executive Summary, 2022 Integrated Resource Plan, page 25. Table 1-4, EKPC Projected Major Capacity Additions, indicates a 225 MW Simple Cycle Combustion Turbine ("SCCT") will be needed by 2032 for peaking/intermediate capacity.

Request 13a. Provide the anticipated date that EKPC would need to begin construction on the SCCT for it to be operational by 2032.

Response 13a. For a simple cycle combustion turbine to be commercially available by 2032, construction would have to be started no later than 2028, depending on the site location and supply chain options available at the time.

Request 13b. Explain why the SCCT is projected to be necessary by 2032.

Response 13b. The facility is needed to ensure EKPC has adequate self-supply resources to serve its winter peak load requirements.

Request 13c. Indicate whether EKPC plans to file a certificate of public convenience and necessity ("CPCN") before building the above referred SCCT. If not, explain why not.

Response 13c. Yes, an application for a certificate of public convenience and necessity ("CPCN") would be filed with the Commission before constructing this or any other significant generating facility.

Request 13d. Provide the total estimated cost of the SCCT.

Response 13d. The capital cost of this facility is currently estimated to be approximately $160 million.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 14
RESPONSIBLE PERSON: Chris Adams

Request 14. Refer to Section 2.0, Commission Report on the 2019 IRP Recommendations, page 31.

Request 14a. Explain why approximately 20% of EKPC's region has not been state- certified as either Work Ready or as a Work Ready in Progress Community.

Response 14a. EKPC encourages communities in its owner-member's service regions to obtain the Work Ready Community status. However, it is ultimately the communities' responsibility to secure the certification.

Request 14b. Explain how EKPC encourages and assists its service regions in obtaining this important certification that demonstrates the communities are committed to providing a highly skilled workforce.

Response 14b. EKPC is supportive of creating a future workforce in all of Kentucky communities served by our owner-members. EKPC and its owner-members work closely with local elected officials, educators and industry to align the community to begin creating a workforce that can change the future economic trajectory of the community.

Kentucky's Touchstone Energy Cooperative's economic development website (https://dataispower.org/workforce-education) highlights the programs EKPC and its owner-members are assisting communities with in pursuit of future job growth. Included on that page is the SOARSTEM initiative that impacts some of the poorest counties in Eastern Kentucky by investing in teachers, students and classrooms. EKPC and its owner-members are also recognized nationally for working closely with educators to design curriculum with a focus on industry.

Request 14c. EKPC asserts that a key driver for EKPC's sustainability energy goals is due to the majority of large clients seeking options for renewable energy access.

i. Identify the specific types of renewable energy that are being requested.

ii. Explain in detail whether the larger customers are paying for the expense of the renewable energy access. If not, explain why not

Response 14c. i. EKPC offers wholesale renewable energy through its Wholesale Renewable Energy Program – Rate H tariff ("green tariff"). Large retail members' participation is limited to Option B and Option C of the green tariff. Option B allows for participating retail members to offset a portion or all of the energy consumed with energy sourced from renewable sources while utilizing the owner-member's firm service rates. Option C allows for participating retail members to offset up to all of their energy consumption with Renewable Energy Credits ("RECs"). EKPC purchases RECs from a wide variety of renewable energy sources including solar, wind, and hydro as well as Green-e (a classification under which renewable technology type may vary) to meet its obligations under Option C.

ii. Participating retail members utilizing either Option B or C of the green tariff are responsible for the incremental costs associated with the renewable energy or REC. Under Option B, EKPC will increase the owner-member's monthly wholesale power bill by the negotiated and contracted renewable energy rate and delivered renewable energy for each participating agreement while providing a credit for the avoided cost of base fuel per MWh of renewable energy delivered and capacity credits when applicable. Under Option C, EKPC will increase the owner-member's monthly wholesale bill for the RECs purchased at the market price plus a monthly transactional fee of $100. For any agreement instructing EKPC to purchase RECs in advance of the billing cycle, a monthly carrying charge equal to $1/12^{th}$ of the annual short-term borrowing rate will be added to

the participant's bill.

Under Option C, the fuel adjustment clause is not applicable to the Renewable Energy Program Contributions. Under Option B, EKPC will provide a credit on the owner-member's monthly wholesale power bill for the avoided cost of the base fuel and the Fuel Adjustment Clause equal to the delivered renewable energy monthly for each participating agreement. Under Option C, the environmental surcharge is not applicable to the Renewable Energy Program Contributions. Under Option B, EKPC will provide a credit on the owner-member's monthly wholesale power bill for the avoided cost of the variable environmental surcharge equal to the delivered renewable energy monthly for each participating agreement.

Under Option B, the total credit on the owner-member's monthly wholesale power bill will be the total of the avoided costs from base fuel, the Fuel Adjustment Clause, capacity credits when applicable, and the variable environmental surcharge for the delivered renewable energy. The total credit will be limited to the lesser of the total credit as described in the Fuel Adjustment Clause and Environmental Surcharge sections above or the PJM Locational Marginal Price ("LMP").

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 15
RESPONSIBLE PERSON: Julia Tucker

Request 15. Refer to Section 2.0, Commission Report on the 2019 IRP Recommendations, page 31.

Request 15a. Explain in full detail whether the costs associated with Cooperative Solar One are passed through in the rates of EKPC and its sixteen owner-members, or whether the customers have to opt-in to pay for the solar energy.

Response 15a. The costs of Cooperative Solar One are not passed on to the retail member. For a retail member to claim the energy from the facility, they must license the panel(s).

Request 15b. EKPC states that the 60-acre Cooperative Solar One farm features 32,300 solar panels producing enough electricity for 1,000 Kentucky homes.

i. Explain whether EKPC has battery storage for the solar farm.

ii. Explain whether the solar farm is providing electricity to customers when the sun is not shining. If not, explain which resources will provide electricity during that time.

iii. Provide the solar farm's capacity factor.

iv. Explain whether the solar farm provides reliable and continuous electricity to customers.

v. Discuss how often solar panels need to be replaced, and the costs associated with each replacement.

vi. Explain in detail whether EKPC's solar farm has had any unexpected inverter tripping, which can happen during normal grid disturbances, and causes the solar energy capacity to unexpectedly go offline.

vii. For the solar energy produced at the Cooperative Solar One provide the cost per MW.

Response 15b.

i. EKPC does not have battery storage for the solar farm.

ii. Solar energy is only produced when there is sufficient irradiance from the sun. As this is generally referred to as an intermittent resource, base load resources are available to provide electricity when there is insufficient light energy, such as at night. Coal, natural gas, landfill gas to energy, and

hydro resources are available to provide electricity on a consistent basis.

iii. The solar farm's average capacity factor, since going online in late 2017, is 18%.

iv. The solar farm provides reliable and continuous electricity to customers when the sun is shining, it is not raining or snowing, and cloud cover is not inhibiting the absorption of the solar irradiation by the panels.

v. Solar panels are anticipated to have a productive life of twenty-five (25) to thirty (30) years. If the panels are damaged or become dysfunctional, replacement of the panels would be covered under the manufacturer's warranty. A forecast for new panels is not available, with any price certainty, to specify a cost to replace a panel.

vi. EKPC has experienced one mechanical failure of one invertor since the facility went online in late 2017. This failure affected only one small section of the facility, and the rest of the facility was able to continue to provide electric energy.

vii. At the end of 2021, the average cost of energy produced from the solar farm is $43.20/MWh.

Request 15c. Regarding the six plants that EKPC asserts it operates to generate renewable power from methane gas at landfills.

i. Explain whether EKPC only operates these plants, or also owns the plants.

ii. Elaborate on the cost of the renewable power that is obtained from these six plants.

iii. Explain whether the six plants provide reliable and continuous electricity to its customers, and provide each plant's capacity factor

iv. For the energy produced at these six plants provide the cost per MW.

v. Provide the following regarding each plant: (i) net book value; (ii) current annual depreciation expense; and (iii) the assumed retirement dates.

vi. Explain in detail all projects/upgrades that need to be completed on any of the landfill gas sources in the next ten years.

Response 15c. Please see the following responses.

i. 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.

ii. See response to 15c(iv)

iii. 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 the past years' 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%

iv. The combined energy cost for the five landfill gas stations is $58.44 per MWh.

v.

East Kentucky Power Cooperative
Generation Plant

Plant Name	Investment as of 12/31/21	Accum Depr as of 12/31/2021	NBV as of 12/31/2021
Green Valley LFGTE	3,008,281.26	(1,712,341.37)	1,295,939.89
Laurel Ridge LFGTE	4,060,673.63	(2,224,973.11)	1,835,700.52
Bavarian LFGTE	6,848,017.89	(2,894,417.59)	3,953,600.30
Hardin County LFGTE	3,469,262.31	(1,612,616.93)	1,856,645.38
Pendleton County LFGTE	4,542,352.67	(379,081.94)	4,163,270.73
Glasgow LFGTE	2,993,753.87	(732,984.95)	2,260,768.92
Total LFGTE	24,922,341.63	(9,556,415.89)	15,365,925.74

	Annual Depreciaion	
Green Valley LF01	$	101,322.84
Laurel Ridge LF02	$	134,544.00
Bavarian LF03	$	264,185.04
Hardin Co. LF04	$	112,955.64
Pendleton Co. LF05	$	165,984.84
Glasgow LF07	$	101,787.60
Total	$	880,779.96

Station	Depreciable Life Date (EKPC does not assume a retirement date)
Bavarian	2038
Green Valley	2038
Hardin	2041
Laurel Ridge	2038
Pendleton	2042
Glasgow	2050

vi. Please refer to the response to AG Request 31.

Request 15d. Regarding the renewable hydropower that EKPC purchases from the federal Southeastern Power Administration through their Cumberland River dam system:

i. Explain whether EKPC is aware of any drought conditions that will affect its purchase of hydropower in the future.

ii. Explain whether the hydropower provides reliable and continuous electricity to its customers, and provide the capacity factor.

iii. For the hydropower produced provide the cost per MW.

Response 15d. Regarding the renewable hydropower that EKPC purchases from the federal Southeastern Power Administration through their Cumberland River dam system:

i. EKPC is not aware of any drought conditions or forecasts that will affect its purchase of hydropower in the future.

ii. The hydropower resource does provide a reliable and continuous electricity to its customers. The capacity factor data for all of the units on the Cumberland River system is not available to EKPC. The allocation that EKPC receives is scheduled for delivery on a weekly basis.

iii. The current rate for the hydropower produced is $14.278/MWh.

Request 15e. Provide a list of all of EKPC's supply-side resources, including PPAs and the above-referenced sources of renewable energy generation, and specify the amount of energy that each such source contributes to EKPC's total energy production.

Response 15e. Please see Table 8-10 in the EKPC 2022 Integrated Resource Plan report.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 16
RESPONSIBLE PERSON: Chris Adams

Request 16. Refer to Section 2.0, Commission Report on the 2019 IRP Recommendations, pages 34 – 35. Explain whether EKPC has received any monies associated with the Infrastructure Investment and Jobs Act, and if so, identify the amount of money received and what EKPC intends to do with the funds.

Response 16. EKPC has not petitioned for, nor received, any monies associated with the Infrastructure Investment and Jobs Act.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 17
RESPONSIBLE PERSON: Julia Tucker

Request 17. Refer to Section 2.0, Commission Report on the 2019 IRP Recommendations, page 43. Explain the pros and cons of EKPC participating in the Fixed Resource Requirement vs. the Reliability Pricing Model capacity market in PJM.

Response 17. EKPC initially participated in the Fixed Resource Requirement ("FRR") when it first joined PJM. FRR means that resources must be identified and provided to cover the summer peak load plus reserve requirements. The reserve requirements for FRR are slightly greater than for Reliability Pricing Model ("RPM"). Any extra capacity that was available beyond the FRR requirements was then sold in the RPM capacity auction. By moving to the RPM model, EKPC could monetize all of its resources within the RPM auction and be responsible for buying less reserves from the auction than what it was required to hold in FRR. The difference was roughly 3%.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 18
RESPONSIBLE PERSON: Denise Foster Cronin

Request 18. Refer to Section 2.0, Commission Report on the 2019 IRP Recommendations, page 45. EKPC asserts that it submitted comments to FERC expressing concern that the pace of change in the generation resource mix is likely to surpass the current market structures such that PJM may not have the resources available to produce energy, or reduce load, in real time with the operating characteristics that it needs to maintain reliability 24 hours a day, 7 days a week, 365 days a year. EKPC further cautioned that generators with those necessary characteristics could prematurely retire if the market undervalues their contribution.

Request 18a. Provide a copy of the above-referenced comments filed with FERC.

Response 18a. Please find the attached PDF document *AG Response 18a - EKPC Comments AD21-10 Modernizing Electric Grid.pdf* for EKPC's comments in FERC Docket No. AD21-10 – Modernizing Electricity Market Design. FERC has not acted in

response to EKPC's specific comments; however, there have been some related developments. PJM finished the stakeholder process and filed a major overhaul of the MOPR, which addressed EKPC concerns. EKPC joined other cooperatives and filed comments in support of the PJM filing. That filing was approved by FERC and is currently in effect, although the decision is on appeal. FERC has not initiated a generic rulemaking on capacity market matters, which could have been an outcome of the technical conference and comments submitted in Docket No. AD21-10. FERC issued an order in Docket No. AD21-10 requiring RTOs to file reports addressing a list of market design questions within 180 days of its order, which was issued on April 21, 2022. Thus these reports are due in October 2022. PJM has solicited feedback from stakeholders by July 8, 2022 to help inform the report that PJM will file. As of this filing, PJM has not released the stakeholder feedback for review. FERC is allowing public comment on the submitted reports within 60 days of the reports being submitted, which would be December 2022.

Request 18b. Provide a copy of any and all response(s) from FERC concerning EKPC's above-referenced comments. Please consider this an ongoing request.

Response 18b. Please see the attached PDF documents *AG Response 18b - FERC notice - PJM MOPR in effect by operation of law ER21-2582.pdf*, *AG Response 18b - FERC order directing RTO reports AD21-10 moderning electricity markets.pdf*, and *AG*

Response 18b - Joint PJM Cooperatives ER21-2582 Comments (2021-08-20).pdf.

Request 18c. Identify the supply-side resources that produce energy in real time that maintains reliability 24 hours a day, 7 days a week, 365 days a year.

Response 18c. Coal and nuclear are typically considered "baseload" resources considered to be available 24/7/365. Gas also could be considered 24/7/365. Currently, combined cycle gas is operating more like baseload than mid-merit due to the economics in the wholesale electricity market. Operationally, resources may be capable of operating more than the market dispatches them on economics. The characterization of 24/7/365 is focused on capability, not economic dispatch and actual power production on a daily or yearly basis. This operational capability may be contrasted with the operational capability of intermittent resources, which are only capable of operating when their fuel source (sun or wind) is available, and resources with limited duration (such as storage or pumped hydro).

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 19
RESPONSIBLE PERSON: Julia Tucker

Request 19. Refer to Section 3.0, Load Forecast, page 81. EKPC states that based on previous research studies and benchmarking, the elasticity assumptions for the residential class are between -.20 and -.30 and for commercial and industrial -.05 to -.15. Expound on these elasticity assumptions further, and if possible provide the dollar amount that is associated with the elasticity assumption results for the residential class and the commercial and industrial classes.

Response 19. Please see the attached PDF *AG Response 19 - Discussion of Price Elasticity.pdf*.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 20
RESPONSIBLE PERSON: Scott Drake

Request 20. Refer to Section 3.0, Load Forecast, page 95.

Request 20a. Provide all updates for the future locations of EV public charging stations in Kentucky. Please consider this an ongoing request.

Response 20a. A resource for the locations of future electric vehicle chargers can be found at the following link:
https://nicholasinstitute.duke.edu/articles/southeast-states-launch-electric-vehicle-infrastructure-planning-and-deployment-tool

Request 20b. Explain whether federal and state monies would provide the necessary funds to build future EV public charging stations in Kentucky, or if EKPC intends for its member-owners' customers to pay for EV public charging stations through the electric rates.

Response 20b. State and federal funds would assist in the cost of installing electric vehicle chargers in part. The retail member would pay the third-party owning the stations for charging their EVs and the third-party would pay for energy through the electric rates.

Request 20c. Does EKPC intend on filing a CPCN before building EV public charging stations?

Response 20c. At this time, EKPC does not intend to build or own any EV public chargers.

Request 20d. Given the current high cost of EVs, does EKPC believe EVs will have a significant market penetration in eastern Kentucky anytime soon? If the Company has conducted any studies in this regard, provide a copy of the same.

Response 20d. EKPC does not have projections for the adoption rate of EVs in eastern Kentucky. The following link shows current registrations by county - select 'vehicles' then the county you are interested in: https://datamart.kytc.ky.gov/

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 21
RESPONSIBLE PERSON: Craig Johnson

Request 21. Refer to Section 4.0, Existing and Committed Capacity Resources Summary, page 97, concerning the coal fired generating units.

Request 21a. Explain in detail whether EKPC plans to retire the Cooper Station I coal fired generating unit. If so, provide the retirement date.

Request 21b. Provide the estimated remaining life of Cooper Station 1.

Request 21c. Provide a general overview of all projects/upgrades that need to be completed on Cooper Station 1 in the next ten years.

Request 21d. Explain in detail whether EKPC plans to retire the Cooper Station II coal fired generating unit. If so, provide the retirement date.

Request 21e. Provide the estimated remaining life of Cooper Station II.

Request 21f. EKPC states that a duct reroute project, which routes the flue gas from unit one into the unit two pollution control system, was completed on Cooper Station II in 2016. Provide a general overview of all other projects/upgrades that need to be completed on Cooper Station II in the next ten years.

Request 21g. Explain in detail whether EKPC plans to retire Spurlock Station Unit 1 coal fired generating unit. If so, provide the retirement date.

Request 21h. Provide the estimate remaining life of Spurlock Station Unit I.

Request 21i. Provide a general overview of all projects/upgrades that need to be completed on Spurlock Station Unit 1 in the next ten years.

Request 21j. Explain in detail whether EKPC has any plans to retire the Spurlock Station Unit 2 coal fired generating unit. If so, provide the retirement date.

Request 21k. Provide the estimated remaining life of Spurlock Station Unit 2.

Request 21l. Provide a general overview of all projects/upgrades that need to be completed on Spurlock Station Unit 2 in the next ten years.

Request 21m. Explain in detail whether EKPC plans to retire the Spurlock Station Unit 3 coal fired generating unit. If so, provide the retirement date.

Request 21n. Provide the estimated remaining life of Spurlock Station Unit 3.

Request 21o. Provide a general overview of all projects/upgrades that need to be completed on Spurlock Station Unit 3 the next ten years.

Request 21p. Explain in detail whether EKPC has any plans to retire the Spurlock Station Unit 4 coal fired generating unit. If so, provide the retirement date.

Request 2q. Provide the estimated remaining life of Spurlock Station Unit 4.

Request 21r. Provide a general overview of all projects/upgrades that need to be completed on Spurlock Station Unit 4 in the next ten years.

Request 21s. Explain whether EKPC has had, or foresees, any difficulties in obtaining coal for its coal generating units.

Response 21. Please see the following responses.

a) EKPC has made no plan to retire Cooper 1.

b) Cooper 1 is at the end of its depreciable life in 2030. This does not mean that the unit has reached the end of its operational life. Cooper 1 could be operated safely and reliably well past its financial life if properly maintained.

c) A listing of the major projects for Cooper Station for the next five years was given in the IRP filing under Table 7-2. The remaining five years under question will be routine projects necessary to keep the unit reliable.

d) EKPC has made no plan to retire Cooper 2.

e) Cooper 2 is at the end of its depreciable life in 2030. This does not mean that the unit has reached the end of its operational life. Cooper 2 could be operated safely and reliably well past its financial life if properly maintained.

f) The project under question was the rerouting of flue gas from Cooper Unit 1 into the Cooper Unit 2 scrubber. That project was approved by the Commission on February 20, 2015 in Case No. 2013-00259. A listing of the major projects for Cooper Station for the next five years was given in the IRP filing under Table 7-2. The remaining five years under question will be routine projects necessary to keep the unit reliable.

g) EKPC has made no plan to retire Spurlock Unit 1.

h) Spurlock Unit 1 is at the end of its depreciable life in 2040. This does not mean that the unit has reached the end of its operational life. Spurlock Unit 1 could be operated safely and reliably well past its financial life if properly maintained.

i) A listing of the major projects for Spurlock Station for the next five years was given in the IRP filing under Table 7-3. The remaining five years under question will be routine projects necessary for safe and reliable operation.

j) EKPC has made no plan to retire Spurlock Unit 2.

k) Spurlock Unit 2 is at the end of its depreciable life in 2042. This does not mean that the unit has reached the end of its operational life. Spurlock Unit 2 could be operated safely and reliably well past its financial life if properly maintained.

l) A listing of the major projects for Spurlock Station for the next five years was given in the IRP filing under Table 7-3. The remaining five years under question will be routine projects necessary for safe and reliable operation.

m) EKPC has made no plan to retire Spurlock Unit 3.

n) Spurlock Unit 3 is at the end of its depreciable life in 2045. This does not mean that the unit has reached the end of its operational life. Spurlock Unit 3 could be operated safely and reliably well past its financial life if properly maintained.

o) A listing of the major projects for Spurlock Station for the next five years was given in the IRP filing under Table 7-3. The remaining five years under question will be routine projects necessary for safe and reliable operation.

p) EKPC has made no plan to retire Spurlock Unit 4.

q) Spurlock Unit 4 is at the end of its depreciable life in 2049. This does not mean that the unit has reached the end of its operational life. Spurlock Unit 4 could be operated safely and reliably well past its financial life if properly maintained.

r) A listing of the major projects for Spurlock Station for the next five years was given in the IRP filing under Table 7-3. The remaining five years under question will be routine projects necessary for safe and reliable operation.

s) The coal market is currently tight, putting upward pressure on price, but as long as the coal suppliers and transporters perform, EKPC does not foresee any difficulties in obtaining coal for its coal generating units.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 22
RESPONSIBLE PERSON: Craig Johnson

Request 22. Refer to Section 4.0, Existing and Committed Capacity Resources Summary, page 98, concerning the natural gas/fuel oil generating units.

Request 22a. Explain in detail whether EKPC plans to retire any of its natural gas/fuel oil generating units at either the J.K. Smith Station or the Bluegrass Generation Station. If so, provide the retirement date for each unit.

Response 22a. EKPC has no plans to retire any of the combustion turbine fleet.

Request 22b. Provide the estimated remaining life for all of the natural gas/fuel oil generating units.

Response 22b. The units will reach their depreciable lives on the following dates: Smith Units 1, 2, and 3 – 2034; Smith Units 4 and 5 – 2041; Smith Units 6 and 7 – 2045; Smith Units 9 and 10 – 2050; and Bluegrass Units 1, 2, and 3 – 2042. There are no

known reasons that the units could not be operated safely and reliably past their financial life if properly maintained.

Request 22c. Provide a general overview of all projects/upgrades that need to be completed on any of the natural gas/fuel oil generating units in the next ten years.

Response 22c. The projects reported for the next five years for Bluegrass Station and Smith Station can be found in Tables 7-1 and 7-4 of the IRP, respectively.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 23
RESPONSIBLE PERSON: Julia Tucker

Request 23. Refer to Section 4.0, Existing and Committed Capacity Resources Summary, page 98, concerning the Southeastern Power Administration ("SEPA") agreement. EKPC's 100 MW allotment of hydropower from SEPA's Cumberland River system could be affected by the Nashville Office of the U.S. Army Corps of Engineers' ("USACE") Capital Improvement Program on the Cumberland River system, which is expected to last approximately 20 years. During this time, EKPC asserts that the system capacity could be less than the marketed capacity, and any reductions to capacity will be reconciled through the SEPA invoicing process by providing capacity credits.

Request 23a. Provide further details of the USACE Capital Improvement Plan.

Response 23a. See attached *AG Response 23a - Capital Improvement Plan*.pdf.

Request 23b. Expound on the invoicing process with SEPA, in which reductions to capacity will provide capacity credits.

Response 23b. If SEPA is only able to supply 75 MW of the 100 MW contract amount in a month, then the invoice credits EKPC for 25 MW of capacity that it did not receive that month. It is trued-up each month based on actuals.

Request 23c. If the SEPA contract will potentially provide less than the 170 MW of hydropower, will EKPC pay a reduced contract rate? If not, explain why not.

Response 23c. See Response 23b.

Request 23d. Based upon the potential reduction of hydropower, explain whether EKPC will need to find an alternative source of power.

Response 23d. Due to the planned rehabilitation plans for the hydro energy facilities on the Cumberland River system and expected prices, EKPC does not anticipate a need to seek alternate sources of power.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 24
RESPONSIBLE PERSON: Julia Tucker

Request 24. Refer to Section 4.0, Existing and Committed Capacity Resources Summary, page 99, concerning the renewable sources. EKPC asserts that the Cooperative Solar Farm One was placed into operation on November 12, 2017, and has 32,300 solar panels capable of producing up to 8.5 MW. EKPC further states that as of year-end 2021 there were 242 subscribers with 1,492 panels.

Request 24a. Explain what EKPC is doing with the power generated by the additional 30,808 solar panels that the customers are not subscribing to at this time.

Response 24a. Energy is supplied to the EKPC owner members.

Request 24b. Explain whether EKPC intends to build any more solar farms in the near future.

Response 24b. The subscription rate for Cooperative Solar 1 is low. At this time, EKPC does not need an additional solar farm to support the Cooperative Solar tariff.

Request 24c. Explain the process to become a subscriber to the solar farm.

Response 24c. Any retail member of the sixteen (16) owner-members of the EKPC system is eligible to license panels. The retail member visits the Cooperative Solar website, where the retail member may complete an online form to initiate the licensing process. The retail member will be contacted by the owner-member, of which they are a retail member, to oversee the final payment transaction.

Request 24d. Provide the current number of subscribers to the solar farm.

Response 24d. As of June 30, 2022, there are 248 licensees, with 1,553 panels licensed.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 25
RESPONSIBLE PERSON: Scott Drake

Request 25. Refer to Section 5.0, Demand Side Management ("DSM"), page 113. Provide a general description for each of the eight existing DSM programs.

Response 25. Here are the general descriptions for each of the eight existing DSM programs.

For additional program details, including measures, eligibility criteria, incentives, and target markets, please see Technical Appendix Volume 2 Demand Side Management, Exhibit DSM-5 "Program Descriptions of DSM Programs".

Button-Up Weatherization Program

Program Description

The Button-up Weatherization (Button-up) Program is designed to incentivize retail members with poor energy-performing homes to improve the energy efficiency of the home's shell. The Button-up program is an important program to assist retail members with high bills caused by excessive heat losses. Air-sealing and attic insulation are the most cost-effective measures to improve home energy performance.

CARES Low-Income Weatherization Program

Program Description

EKPC's Community Assistance Resources for Energy Savings ("CARES") Low Income Program provides an incentive to enhance the weatherization and energy efficiency services provided to its residential retail members by the Kentucky Community Action Agency's ("CAA") network of not for profit community action agencies.

EKPC and its owner-members provide an incentive to the CAA implementing the project on behalf of the retail member.

EKPC's program has two primary objectives. First, EKPC's incentive will enable the CAA to install more measures in each home. Second, the additional incentive from EKPC will assist CAA in weatherizing more homes.

Heat Pump Retrofit Program

Program Description

The Heat Pump Retrofit Program provides incentives for residential members to replace their existing resistance heat source (electric furnace, ceiling cable heat, baseboard heat, or electric thermal storage) with a more efficient heat pump.

Most high bill complaints are from retail members with homes that are heated with electric resistive heat instead of a heat pump. Installing an electric heat pump lowers electric bills significantly for those members.

The program provides incentives for both centrally ducted systems and mini-split systems.

Touchstone Energy Home

Program Description

In an effort to improve new residential home energy performance, EKPC has designed the Touchstone Energy Home Program. The program is designed to encourage new homes to be built to higher standards for thermal integrity and equipment efficiency, as well as to choose a geothermal or an air source heat pump rather than less efficient forms of heating and cooling.

The Touchstone Energy Home program provides guidance during the building process to guarantee a home that is ≥25-30% more efficient than the Kentucky standard built home.

ENERGY STAR® Manufactured Home

Program Description

The ENERGY STAR® Manufactured Home Program ("ESMH") is designed to ensure that our residential retail members purchase an energy efficient manufactured home. EKPC will accomplish this by providing an incentive to purchase and install a new ENERGY STAR® certified manufactured home instead of a Housing and Urban

Development ("HUD") minimum standard home. The incentive is paid to the member who purchases the ENERGY STAR® manufactured home.

Residential Energy Audit Program

Program Description

This program uses targeted information on home energy use to help retail members manage their energy use and save energy. The program is designed to offer two kinds of information delivery: an in-home audit and an online audit.

The audit report includes simple low-cost improvements that the homeowners can do themselves. The homeowner will also be made aware of any recommendations that are eligible for a rebate under our other energy efficiency programs.

Residential Efficient Lighting Program

Program Description

The purpose of this program is to improve the efficiency of residential lighting by subsidizing the cost of higher efficiency lighting products. EKPC and its owner-members distribute LED light bulbs to members.

Direct Load Control Program: Residential Air Conditioners

Program Description

The Direct Load Control Program is designed to shift loads during peak times to off-peak times in order to reduce EKPC's capacity payments to PJM.

The objective of the program is to reduce peak demand and energy usage through the installation of load control devices on residential central air conditioners and heat pumps.

Peak demand reduction is accomplished by cycling equipment on and off according to a predetermined control strategy. Central air conditioning and heat pump units are cycled on and off, while water heater loads are curtailed.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 26
RESPONSIBLE PERSON: Scott Drake

Request 26. Refer to Section 5.0, DSM, page 120. Explain why the $19,387,092 of DSM rebates paid out are not included in the Total Resource Cost ("TRC") test.

Response 26. The TRC test evaluates energy efficiency measures or programs from the combined perspective of the utility system and participants. It determines the costs and benefits for the utility and program participants together. Rebates are a cost to the utility but a benefit to the program participants. Thus, for the TRC test, rebates are an internal transfer payment. Therefore, rebates are not included in the TRC test.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 27
RESPONSIBLE PERSON: Scott Drake

Request 27. Refer to Section 5.0, DSM, pages 120 – 121. Explain why the cost values are using a 5% discount rate.

Response 27. The 5 percent discount rate was based on a forecast of EKPC's Weighted Average Cost of Capital ("WACC") in 2021 when the cost-effectiveness evaluations were being developed. The WACC captures the time value of money for utility investments, such as energy efficiency and demand response resources.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 28
RESPONSIBLE PERSON: Scott Drake

Request 28. Refer to Section 5.0, DSM, page 121. EKPC asserts that the TRC for the entire DSM portfolio yields a benefit-cost ratio of 1.70. Provide the parameters for the TRC test score, which indicates whether a program and/or portfolio is cost beneficial.

Response 28. The TRC cost parameters include EKPC and owner-member administrative costs, and participant costs. The TRC benefit parameters include avoided energy costs, avoided generation capacity costs, avoided transmission costs, and participant savings in other energy fuels and water (for programs that save other fuels and/or water).

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 29
RESPONSIBLE PERSON: Darrin Adams

Request 29. Refer to Section 6.0, Transmission and Distribution Planning, page 124. EKPC asserts that because the Company is a PJM member, PJM closely coordinates transmission planning activities for the EKPC system. Explain whether being a member of PJM causes its transmission costs to be higher than if it were not a member of PJM.

Response 29. From a transmission-planning perspective, there is a potential for EKPC's transmission capital costs to be higher as a PJM member than as a stand-alone transmission-planning entity. This is due to differences in PJM planning criteria that are more stringent when compared to EKPC planning criteria. Since EKPC integrated into PJM in 2013, a total of four transmission projects have been required on the EKPC system due to PJM criteria that is more stringent than EKPC criteria. The total cost of these four projects was $3,673,000. Some of these projects would potentially be required by EKPC planning criteria either now or in the future, so in some cases the cost impact of PJM membership is an acceleration of an expenditure that will be eventually required to satisfy EKPC planning criteria.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 30
RESPONSIBLE PERSON: Darrin Adams

Request 30. Refer to Section 6.0, Transmission and Distribution Planning, page 131. EKPC asserts that as of January 1, 2022, there were a total of 103 active merchant-generation facilitates in the PJM queue that had requested interconnection to the EKPC transmission system, and all of the projects are either stand-alone solar generation facilities or hybrid solar/battery storage facilities. EKPC further asserted that it will need to perform necessary upgrades on certain transmission facilities to accommodate the projects that have reached final agreements with PJM. Explain whether the upgrades will be paid for by the merchant-generation facilities or EKPC's member-owners.

Response 30. Under PJM's rules, all costs of transmission-system additions and upgrades required to facilitate interconnection of a new generation facility are the responsibility of the project developer/owner. EKPC and its Owner-Members will not absorb any of these required transmission costs.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 31
RESPONSIBLE PERSON: Craig Johnson

Request 31. Refer to Section 7.0, Plans for Existing Generating Units, pages 144 – 156. Provide the total dollar amount of the proposed projects for each generating unit. Provide also the projected capacity factor for each unit once all of the identified projects are completed.

Response 31. Please see attached Excel spreadsheet *AG Response 31 - Project List 2022_2031.xlsx*. Capacity factors are listed in Tables under Section 8.(3)(b)(12) of the IRP. EKPC is providing the confidential information to each of the intervenors who have signed confidentiality agreements.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 32
RESPONSIBLE PERSON: Julia Tucker

Request 32. Refer to Section 8.0, Integrated Resource Planning, page 163. EKPC states that it has participated in evaluating out-of-state wind projects but has not found any that fit its generation expansion needs. Explain why none of the wind projects fit EKPC's generation expansion needs.

Response 32. Wind projects would need to be in an area that has proven wind resources. Within the PJM market footprint, Kentucky is not a proven area for wind resources, therefore economic and dependable wind energy resources are located out of state and the energy from those resources would have to be imported. Purchasing resources that are outside the EKPC transmission system or EKPC load zone increases the likelihood of congestion having an adverse impact on the difference between the LMP EKPC's load pays and the price EKPC would receive for energy delivered to the PJM system for the wind resource. This congestion risk could be difficult to manage and increase the price of the energy that a wind resource outside of the EKPC load zone to the point that it would not be an economic choice for EKPC.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 33
RESPONSIBLE PERSON: Julia Tucker

Request 33. Refer to Section 8.0, Integrated Resource Planning, page 164. Provide details concerning EKPC's purchase of 1,357 MWh from its one contracted cogeneration facility.

Response 33. The energy purchased, 1,357 MWh, was produced in a southcentral Kentucky co-generation facility. This is a contracted facility under the Cogeneration/Small Power Producer tariff. The contract with the facility is filed with the Commission.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 34
RESPONSIBLE PERSON: Julia Tucker

Request 34. Refer to Section 8.0, Integrated Resource Planning, page 171. Explain in detail whether EKPC will need to build new generation and/or contract for energy within the next five years.

Response 34. The current expansion plan has an expectation of contracting for winter energy hedges during the next five years. No new construction is anticipated, in the next five years, in this Integrated Resource Plan.

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

ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION DATED 06/29/2022
REQUEST 35
RESPONSIBLE PERSON: Scott Drake

Request 35. Refer to the Integrated Resource Plan, Technical Appendix, Volume 2, DSM, page DSM-4. Explain why the residential energy audit is included in EKPC's DSM if its TRC test is 0.45

Response 35. The Residential Energy Audit program is a service that EKPC owner-members provide for the retail member. Owner-members use the audit to respond to high bill complaints prior to sending an employee to the home to perform a residential energy assessment. The audit also identifies opportunities for retail members to participate in EKPC's DSM programs. EKPC includes it in the IRP because it does produce savings in electricity, primarily in low cost/no cost measures. Only EKPC costs are captured in the cost-effectiveness analysis. The savings for reduced truck runs for the owner-members cooperatives is not included in the cost-effectiveness analysis.