BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2025 INTEGRATED RESOURCE)	
PLAN OF EAST KENTUCKY POWER)	
COOPERATIVE, INC.)	CASE NO.
)	2025-00087

RESPONSES TO ATTORNEY GENERAL'S FIRST INFORMATION REQUEST

TO EAST KENTUCKY POWER COOPERATIVE, INC.

DATED MAY 15, 2025

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2025 INTEGRATED RESOURCE)PLAN OF EAST KENTUCKY POWER)COOPERATIVE, INC.)2025-00087

CERTIFICATE

STATE OF KENTUCKY)) COUNTY OF CLARK)

Greg Cecil, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Attorney General's First Request for Information in the above-referenced case dated May 15, 2025, 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.

Greg Cecil

Greg Cecil

Jerie K. Combs



BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2025 INTEGRATED RESOURCE)PLAN OF EAST KENTUCKY POWER)CASE NO.COOPERATIVE, INC.)2025-00087

CERTIFICATE

STATE OF KENTUCKY)) COUNTY OF CLARK)

Christopher E. 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 First Request for Information in the above-referenced case dated May 15, 2025, 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.

Christopher E. adams

Derie K. Combis

TERRI K. COMBS Commonwealth of Kentucky Commission Number KYNP17358 My Commission Expires Dec 20, 2028

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2025 INTEGRATED RESOURCE)	
PLAN OF EAST KENTUCKY POWER)	CASE NO.
COOPERATIVE, INC.)	2025-00087
)	

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 First Request for Information in the above-referenced case dated May 15, 2025, 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

Jerie K. Combo

TERRI K. COMBS Notary Public Commonwealth of Kentucky Commission Number KYNP17358 Ay Commission Expires Dec 20, 2028

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2025 INTEGRATED RESOURCE)PLAN OF EAST KENTUCKY POWER)CASE NO.COOPERATIVE, INC.)2025-00087

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 First Request for Information in the above-referenced case dated May 15, 2025, 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.

Graning John

Jerie K. Combo



BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2025 INTEGRATED RESOURCE)PLAN OF EAST KENTUCKY POWER)CASE NO.COOPERATIVE, INC.)2025-00087

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 First Request for Information in the above-referenced case dated May 15, 2025, 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

Deri K. Combis

TERRI K. COMBS Notary Public Commonwealth of Kentucky Commission Number KYNP17358 My Commission Expires Dec 20, 2028

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2025 INTEGRATED RESOURCE)PLAN OF EAST KENTUCKY POWER)CASE NO.COOPERATIVE, INC.)2025-00087

CERTIFICATE

STATE OF KENTUCKY)) COUNTY OF CLARK)

Denise Cronin, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Attorney General's First Request for Information in the above-referenced case dated May 15, 2025, 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 5th day of June, 2025.

Deri K. Combes

TERRI K. COMBS Notary Public Commonwealth of Kentucky Commission Number KYNP17358 My Commission Expires Dec 20, 2028

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2025 INTEGRATED RESOURCE)PLAN OF EAST KENTUCKY POWER)CASE NO.COOPERATIVE, INC.)2025-00087

CERTIFICATE

STATE OF KENTUCKY)) COUNTY OF CLARK)

Julia J. Tucker, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Attorney General's First Request for Information in the above-referenced case dated May 15, 2025, 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.

Julie Jucker

Deri K. Combo



ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 1 RESPONSIBLE PARTY: Denise Foster Cronin (a-b); Christopher E. Adams (c-d)

<u>Request 1.</u> Refer to the 2025 Integrated Resource Plan ("IRP"), Section 1.0 Executive Summary, 1.1 General Overview, 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."

a. Expound on this statement by identifying and discussing the concerns that

EKPC has for future reliability of the electric grid.

b. 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.

c. 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.

d. Explain why conventional generation resources are needed to maintain reliability as the

transition occurs.

Response 1.

On May 14 2025, the North American Electric Reliability Corporation issued a a-b. report echoing prior concerns with potential grid reliability risks stemming from higher demand, plant retirements, and a less flexible resource mix. This 2025 Summer Reliability Assessment evaluated generation resource and transmission system adequacy for June through September. (https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC SRA 2025.pdf) Although all areas of study are expected to have adequate resources for normal summer peak load conditions, several regions are at risk of electricity supply shortfalls during periods of more extreme summer weather, including New England, parts of the Midwest, and the Southwest Power Pool and Texas. Separately PJM issued a summer 2025 outlook which indicated it is forecasting sufficient generation for typical peak demand this summer but is preparing to call on contracted demand response resources to reduce electricity use under more extreme scenarios. (https://insidelines.pjm.com/pjm-summer-outlook-2025-adequate-resources-available-forsummer-amid-growing-risk/) The Federal Energy Regulatory Commission (FERC) issued a press release referencing both NERC's and PJM's assessments. (https://www.ferc.gov/news-events/ news/ferc-releases-2025-summer-assessment) FERC Chairman Mark Christie emphasized that PJM's announcement is significant in that it is the first time PJM said it expects to rely upon demand response to manage summer operations.

Moreover, in his pre-filed testimony to FERC on May 20, PJM's Vice President of Market Design and Economics, Adam Keech, reinforced PJM's concern about future resource adequacy and the steps PJM is taking to try to address risks. He stated, "PJM will continue all efforts to meet the resource adequacy challenges, including, but not limited to, facilitating the development of new resources, retaining existing resources, further enhancing the ELCC model to accurately account for supply during the hours of highest risk, and exploring opportunities to increase the participation of demand resources. While all of these efforts may help to alleviate some issues on the supply side, increases in the load forecast are likely to continue over the next several auctions and pose a challenge to meet the growing demands. It is for this reason that we intend to also engage with stakeholders, regulators and state policymakers on the larger issues outlined in Manu's testimony." PJM's CEO, Manu Asthana, submitted testimony outlining topics for discussion and requesting stakeholder input. It is clear PJM believes much more needs be done to ensure the region remains reliable.

c-d. Coal- and natural gas-fired resources will continue to be needed to "bridge the gap" to a lower carbon future. Along with nuclear, these assets provide reliable and necessary capacity during peak periods as evidenced by Winter Storms Elliott, Gerri, and Enzo. These resources are fuel-secure and dispatchable, with the ability to fill the gap left by intermittent renewable resources when the sun does not shine or the wind does not blow.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 2 RESPONSIBLE PARTY: Christopher E. Adams

Request 2. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.1 General Overview, page 2. EKPC states that one of its strategic objections is to, "actively manage its current and future asset portfolio to safely deliver reliable, competitive and sustainable capacity and energy from appropriately diversified resources, and work with federal and state stakeholders to ensure high reliability and economic viability while mitigating evolving regulatory challenges including possible carbon emissions reduction mandates and penalties." EKPC further asserts that it will accomplish this objective by actively managing its current and future asset portfolio to maintain high reliability of electric service to its owner-members and economically diversify its energy resources, including market purchases, fossil fuels, renewables, demand management, and energy efficiency programs, and partnering opportunities.

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

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

- i. Market Purchases,
- ii. Fossil Fuels,

iii. Renewables,

iv. Demand Management,

v. Energy Efficiency Programs, and

vi. Partnering Opportunities.

c. Explain why EKPC did not include battery storage in the list of energy resources as it did in the Company's 2022 IRP.

Response 2.

a. EKPC continues to forecast both its short-term energy needs on a daily basis and longterm energy needs on a bi-annual basis and plan generation resources accordingly. EKPC has filed for the addition of 2 solar resources (Case No. 2024-00129), a 214 MW Reciprocating Internal Combustion Engine ("RICE") facility (Case No. 2024-00310), a 745 MW Natural Gas Combined Cycle ("NGCC") generator, and the natural gas co-fire conversion of five of its current coal-fired generators (Case No. 2024-00370). These projects allow EKPC to maintain its current coal fleet, add fuel diversity through the option of burning coal or natural gas, enabling EKPC to respond quickly to intermittent resource unavailability within the PJM system, and provided needed reliable winter capacity to its portfolio.

b. i. EKPC intends to minimize the need for market purchases during high-cost market periods by completing the projects discussed above. When the market is less expensive than EKPC portfolio, it will seek to optimize the purchase of that lower-cost energy from the market. However, EKPC does not intend to rely on the PJM market long-term in order to fulfill its energy and capacity needs.

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ii. EKPC believes fossil fuels are an integral component to its portfolio to maintain reliable service to its Owner-Members. Coal and natural gas, along with fuel oil backup, provide fuel-secured dispatchable generation.

iii. Renewables, specifically solar, provide cost-effective energy which is anticipated to offset economic energy purchases from the PJM energy market. Solar will not provide capacity during winter peak; however, it is anticipated to provide some summer capacity according to PJM ELCC capacity accreditation.

iv. Demand-side management, specifically demand response, is an integral part of the EKPC portfolio which allows EKPC the option to reduce load given a reasonable notice period, similar to a dispatchable resource. The anticipated load reduction is factored into EKPC's long-term load forecast as a reduction to the forecasted peak load which reduces the total needed capacity by approximately 200 MWs per year.

v. Similar to demand response, energy efficiency provides energy and capacity reductions to the long-term load forecast. However, these measures are not dispatchable and rely on the consumer's decision to participate in the program in order to meet expected load reductions.

vi. EKPC issues Requests for Proposal ("RFPs") which are open to all entities, including those wishing to offer partnership opportunities in potential resources.

c. EKPC included battery energy storage systems ("BESS") in its list of resource options, see Table 8-2 on page 180 of the 2025 EKPC IRP (pdf page 200). However, the Resource Optimizer did not choose the resource in any of the top 5 plans due to overall cost.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 3 RESPONSIBLE PARTY: Julia J. Tucker

<u>Request 3.</u> Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.1 General Overview, page 3. EKPC states that another strategic objective is to continue to ensure reliable and competitive electric service while supporting beneficial electrification and thoughtfully responding to growing pressures to decarbonize.

a. Explain why EKPC did not state that a strategic objection is to ensure affordable electric service as it did in the Company's 2022 IRP.

b. Explain in detail how EKPC plans to ensure reliability and affordability of electric service while supporting electrification and decarbonizing.

c. Explain in detail what EKPC means by beneficial electrification.

d. Explain how EKPC intends to "thoughtfully" respond to growing pressures to decarbonize.

e. Provide a list of the specific entities pressuring EKPC to decarbonize.

f. Explain whether EKPC intends to continue to decarbonize even if the federal and state law does not require it to decarbonize. If so, explain the answer in detail.

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g. With electric bills and unaffordability for customers at all-time highs, explain in detail what EKPC believes is an acceptable cost to the public to decarbonize.

Response 3.

a. The EKPC Board of Directors voted in 2024 to change the company's mission statement to replace affordable with competitive. This does not change EKPC's philosophy of least-cost planning.

b. EKPC has filed three critical CPCN Applications in 2024, one for the Bluegrass Plains and Northern Bobwhite solar projects, one for Liberty RICE, and one for the Cooper CCGT, natural gas co-fire conversions, and DSM updates. These CPCNs have demonstration the need, system planning efforts, and resulting projects which will drive EKPC's reliability and affordability while also supporting electrification and decarbonization. The solar projects provide economic value to End-Use Retail Members ("retail members") by provided low-cost energy to offset market purchases throughout the study period. Liberty RICE provides needed winter capacity and low-cost energy as well as supports the expansion of renewable assets which are prevalent in the PJM generation queue. Cooper CCGT provides the final, much-needed, winter capacity to meet EKPC's reserve margin and ensure reliable and low-cost energy with the mostefficient thermal resource available today.

c. Beneficial electrification is the displacement of energy consumed by directly burning fossil fuels such as gasoline, propane, and natural gas by electricity. Examples include moving from internal combustion vehicles to electric vehicles, converting natural gas boilers to electric boilers, or moving from propane to heat a home to electric heat.

Page 3 of 3

d. As EKPC's needs grow over time, it has the opportunity to expand its generation fleet with lower-carbon-emitting resources, such as RICE engines, CCGTs, and co-fire conversions of existing assets.

e. The Environmental Protection Agency ("EPA") and consumer preference for lowercarbon-emitting resources.

f. EKPC intends to continue with its plan to thoughtfully increase fuel diversity within its generation portfolio. This is the best strategy to both meet its capacity and energy needs while also hedging against future environmental rules and regulations.

g. EKPC must plan to meet the needs of its Owner-Members. Capacity and energy requirements have increased to the point that new generation resources are required to provide reliable service. The plans put forth by EKPC in its recent CPCN cases demonstrate a clear need and include the most cost-effective projects to meet those needs. Those projects do result in lower carbon emissions; however, they also result in the least-cost system to provide reliable energy to end-use consumers.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 4 RESPONSIBLE PARTY: Christopher E. Adams

<u>Request 4.</u> Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.1 General Overview, page 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.

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

b. Explain what electrification of industrial processes EKPC envisions.

c. 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, conversions from natural gas to electrification, or both. If not, provide a detailed response.

Response 4.

a. EKPC manages its reliability by proactively planning for future load needs and choosing to meet those needs with an economically effective supply. EKPC forecasts its Owner-Member's load needs by producing a revised long-term load forecast every two years, with the most recent forecast being completed in 2024. This forecast includes load growth assumptions based on reasonable economic assumptions and projected impacts from demand response and energy efficiency efforts. EKPC then utilizes the forecast to set the need for its capacity expansion plan. The capacity expansion plan is created by first identifying a list of supply-side options (see 2025 EKPC IRP, Table 8-2, on page 180) and running the Resource Optimizer to determine the most cost-effective solution to meet the projected need. Attributes such as capital costs, reliability of the resource (EFORd), variable operations and maintenance costs, and energy costs are considered as part of this modeling effort to determine the overall competitiveness of any given resource.

b. Industrial consumers may use natural gas for HVAC and manufacturing processes. Examples of manufacturing processes that currently use natural gas that could be electrified include drying equipment, boilers, ovens, and melting equipment.

c. Both. Electric load growth would likely increase if less natural gas were available in new homes and buildings or if consumers convert from natural gas.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 5 RESPONSIBLE PARTY: Jerry Purvis and Christopher E. Adams

<u>Request 5.</u> Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.1 General Overview, page 3. EKPC asserts that it will work with state, federal, regional, and PJM stakeholders to respond to the legal, regulatory, and industry pressures so that its fleet remains highly reliable and available at a competitive cost to the public.

a. Explain in general the current legal, regulatory, and industry pressures that EKPC is referring to in the above-referenced statement.

b. Explain in detail whether EKPC believes it can have an affordable and reliable electric grid if ever forced to close its coal and natural gas plants.

c. Explain in detail whether EKPC believes it can have an affordable and reliable electric grid if required to only rely upon renewable energy.

Response 5.

a. EPA finalized in 2024 the PM 2.5 NAAQS, Greenhouse Gas rule for new, modified and existing fossil fueled generation sources, mercury air toxics rule, cross state air pollution / good neighbor FIP, effluent limitations and legacy CCR rules. The six rules certainly impact existing

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coal fueled plants, and new combined cycled steam plants going forward limiting their years of service, capacity factor tied to arguably unavailable carbon sequestration and underground storage and little margin to comply with numeric emission limitations. The public demand for electrical energy is growing, and existing generation capacity is shrinking. Within each rule EPA allows "do nothing" options if the power plants agree to shut down by dates certain. This is the pressure EKPC feels as it journeys ahead to supply our rural owner member cooperatives.

EKPC is currently working with state and federal regulators seeking practicable, doable languages changes and dates to the rules to ease the industry pressure in our best attempt to remain affordable, competitive, reliable and sustainable.

b. If EKPC were forced to close its coal assets uneconomically, and without reasonable notice, then it could not reliably serve its Owner-Members at a competitive price point.

c. No, given the technology available to EKPC today, it cannot plan for a reliable and competitively priced system using only renewable energy. EKPC cannot reliably serve its peak winter demand needs utilizing renewable energy alone. EKPC would need to rely on solar energy as it is the most feasible renewable asset that can be built in Kentucky. However, solar output is not coincident with EKPC's winter peak demand period. Battery energy storage systems ("BESS") would need to be built to store excess solar energy and capacity to be used during peak periods. To design and plan enough solar and long-term BESS to support EKPC's winter peak demand periods would be cost prohibitive.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 6 RESPONSIBLE PARTY: Julia J. Tucker

Request 6. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.2 Load Forecast, page 3. EKPC asserts that current load forecast projects net total energy requirements to increase from 15.4 to 18.4 million MWh, an average of 1.3% per year over the 2025 – 2029 period. Net winter and summer peak demands will increase by 10 approximately 416 MW or 0.8% per year and 411 MW or 1.1% per year, respectively.

a. Discuss the various factors that cause the forecasted total energy requirements to increase an average of 1.3% per year.

b. Discuss how EKPC intends to address providing the increased forecasted load.

Response 6.

a. See attachment *Technical Appendix - Vol 1 - Load Forecast (CONFIDENTIAL).pdf* that was filed in this IRP on April 1, 2025.

b. Meeting the needs highlighted by the 2024 Long-Term Load Forecast ("2024 LTLF") has been detailed in PSC Case Nos. 2024-00310 and 2024-00370 and in this IRP 2025-0087. EKPC plans to construct Liberty RICE, Cooper CCGT, and convert five of its current

Page 2 of 2

coal-fired assets to co-fire natural gas. In order to bridge between 2025 and 2029, EKPC intends to purchase short-term seasonal purchased power agreements in the winter peak periods.

AG Request 7 Page 1 of 2

EAST KENTUCKY POWER COOPERATIVE, INC. CASE NO. 2025-00087 FIRST REQUEST FOR INFORMATION RESPONSE

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 7 RESPONSIBLE PARTY: Scott Drake

Request 7. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.3 Demand Side Management, page 4.

a. Provide a detailed list of each Demand-Side Management ("DSM") program that EKPC offers with a general explanation of each program.

b. Provide EKPC's DSM program total cost.

c. Provide a detailed breakdown of EKPC's DSM program costs.

d. EKPC states that compared with prior studies, more measures were cost-effective this time due to the avoided energy and capacity costs being higher this time, and the federal tax credits providing additional benefits.

i. Explain why the avoided energy and capacity costs were higher this time.

ii. Explain whether EKPC will reevaluate the DSM program if federal tax credits are no longer available.

iii. If any of the federal tax credits are no longer available provide a list of the same.

iv. Explain whether any of the DSM programs were not cost- effective based upon the Total Resource Cost Test ("TRC") from the California standard that was used in the

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study. If so, explain why those DSM programs are still being offered if not cost- effective.

Response 7.

a. Please reference the Integrated Resource Plan – Technical Appendix, Volume 2, Demand Side Management. Exhibit DSM-5, Program Descriptions for DSM Programs – starting at PDF page 166.

b. Please find attached the 2024 EKPC DSM DLC Annual Report containing the latest full year of DSM program total expenditures along with those expenditures broken down by program.

c. Please see response 7b above.

d. i. The avoided energy costs are higher this time because projected fuel costs are higher. The avoided capacity costs are higher because of a new generation unit (RICE engines). Reference PSC 2024-00

ii. Yes, EKPC will conduct a new program-level cost-effective analysis to determine if the current and proposed DSM program's Total Resource Cost (TRCs) are still above 1.

iii. The tax credits are still available at this time.

iv. All of the DSM programs in this IRP are cost-effective having a TRC above 1.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 8 RESPONSIBLE PARTY: Christopher E. Adams

<u>Request 8.</u> Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.4 PJM Membership, pages 5 - 7. EKPC contends that its "PJM membership continues to drive significant beneficial operation changes and significant cost savings for EKPC's owner-members." EKPC further asserts that substantial net savings realized through May 31, 2024, was identified in its annual report.

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

b. Provide the net savings that EKPC realized from its PJM membership through May 31,2024, and explain how the net savings was calculated.

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

d. Explain in detail the significant cost savings that PJM membership provides to EKPC's customers.

e. Provide all costs from EKPC's membership in PJM that are borne by the customers.

f. Explain the pros and cons of EKPC participating in the Fixed Resource Requirement vs. the Reliability Pricing Model capacity market in PJM.

Response 8.

a. Refer to EKPC's response to Joint Intervenors post-hearing request for information, Item4, in PSC Case No. 2024-00370

b. EKPC's membership in PJM has saved its Owner-Members over **Sector** since joining. These savings are realized through trade benefits (the optimization of EKPC's generation fleet dispatch in the PJM market), capacity market benefits, and avoided point-to-point transmission charges, as discussed in the annual reports.

c. Two primary operational changes from EKPC joining PJM have been the ability to optimize dispatch of its generation resources and the ability to utilize transmission as a PJM member. Prior to being a member of PJM, EKPC was a stand-alone balancing authority, responsible for meeting its own demand with a combination of internal resources and/or bi-lateral energy purchases. This meant that EKPC was required to carry enough capacity reserves to meet its forecast peak load, plus a reserve requirement of 12% to account for generation outages and demand forecast risk. In addition, EKPC had to dispatch enough generation, or hold enough fast-start generation in reserve, in real-time to account for its largest single generation contingency. This meant that EKPC could not economically optimize its generation dispatch as the generation was always tied to load and not necessarily tied to the least-cost available resource. As a member of PJM, EKPC purchases 100% of its load needs from the PJM energy market. At the same time, it economically offers its generation resources into the market. When the generation resource is cheaper than the market, then typically those resources are dispatched and the result is a cap, or hedge, on the cost to purchase that energy. EKPC does not have to keep economic resources in

Page 3 of 4

reserve to meet its single largest contingency as now that responsibility rests with PJM. An EKPC resource may account for a portion of the required reserve amount and is now compensated for that portion of energy being held in reserve. The result is a much more efficient dispatch of EKPC's generation fleet as shown in the annual reports. The second operational change is EKPC used to purchase 400 MW of firm point-to-point transmission from PJM into EKPC in order to transact with PJM market participants to purchase economic or emergency energy as needed. EKPC's membership in PJM allows EKPC to eliminate the need for the firm 400 MW of point-to-point transmission and allows EKPC to purchase more than 400 MW, if needed, or economic or emergency energy.

d. Refer to Item 8b, above.

e. All costs EKPC incurs are eventually borne by EKPC's Owner-Members and, in turn, the Owner-Member's end-use consumers. Recovery of expenses commonly occur through base rates, the fuel-adjustment clause ("FAC"), and the environmental surcharge ("ESC"). As stated in Item 8b, above, EKPC's membership in PJM has saved its Owner-Members over

f. EKPC filed an application in May of 2012 seeking approval for PJM integration. In that application, EKPC filed a supplemental report produced by Charles Rivers Associates ("CRA") which outlined the pros and cons of EKPC participating as either an FRR or RPM entity within the PJM capacity market.¹In its report, CRA identifies the level of reserves EKPC would need to carry under RPM is just 3.8% of its summer capacity obligations. This was compared to EKPC's

¹ Application of East Kentucky Power Cooperative, Inc. to Transfer Functional Control of Certain Transmission Facilities to PJM Interconnection, LLC, Case No. 2012-00169, December 20, 2012 Order at 13-14.

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reserve requirement prior to joining PJM of 12% of the winter capacity obligation. Under FRR, EKPC would have been required to carry 3% higher reserves than that under RPM. That 3% impacts the overall amount of excess summer capacity available to sell into the PJM capacity market, and thus results in a reduction to potential revenues should EKPC participate as an FRR entity. While this comparison between RPM and FRR reserves is still true for summer load obligation, and as noted by Julia J. Tucker in the recent hearing regarding PSC Case No. 2024-00370, lower winter reserves have not proven to be as beneficial as previously thought due to the risk of extreme weather and forced generation outages. EKPC has proven the need for a revised reserve margin of 7% to account for these two risks. EKPC still finds value as an RPM participant because it provides EKPC the opportunity to sell the entirety of its accredited capacity into the market.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 9 RESPONSIBLE PARTY: Julia J. Tucker and Jerry Purvis

Request 9. Reference Mr. Tony Campbell's March 31, 2025 letter to President Trump. In the letter, Mr. Campbell asserts that he wrote seven letters to President Biden providing his views on the increasingly alarming impact government regulations are having on the cost and reliability of America's energy supply, but received no meaningful response. Explain in detail how the Trump Administration has responded to each issue addressed by Mr. Tony Campbell's March 31, 2025 letter, as well as his general concerns on the cost and reliability of America's energy supply. Provide copies of all relevant documentation.

<u>Response 9.</u> On April 8, 2025, EKPC's CEO Tony Campbell spoke at the White House on behalf the National Rural Electric Cooperative Association during President Donald Trump's signing of several actions related to the nation's electric-generating industry, including:

Page 2 of 3

- Executive Order Reinvigorating America's Beautiful Clean Coal Industry and Amending Executive Order 14241² (White House fact sheet³);
- Executive Order Protecting American Energy from State Overreach⁴ (White House fact sheet⁵);
- Executive Order Strengthening the Reliability and Security of the United States Electric Grid⁶ (White House fact sheet⁷); and
- Proclamation Regulatory Relief for Certain Stationary Sources to Promote American Energy⁸ (White House fact sheet⁹)

In addition, prior to the March 31 event, the administration issued a number of additional actions,

including the following on Jan. 20, 2025, President Trump's first day in office:

- Executive Order Regulatory Freeze Pending Review;¹⁰
- Executive Order Unleashing American Energy;¹¹
- Executive Order Declaring a National Energy Emergency;¹²

 $^{^2\} https://www.whitehouse.gov/presidential-actions/2025/04/reinvigorating-americas-beautiful-clean-coal-industry-and-amending-executive-order-14241/$

³ https://www.whitehouse.gov/fact-sheets/2025/04/fact-sheet-president-donald-j-trump-reinvigorates-americas-beautiful-clean-coal-industry/

⁴ https://www.whitehouse.gov/presidential-actions/2025/04/protecting-american-energy-from-state-overreach/

 $^{^{5}\} https://www.whitehouse.gov/fact-sheets/2025/04/fact-sheet-president-donald-j-trump-protects-american-energy-from-state-overreach/$

⁶ https://www.whitehouse.gov/presidential-actions/2025/04/strengthening-the-reliability-and-security-of-the-united-states-electric-grid/

⁷ https://www.whitehouse.gov/fact-sheets/2025/04/fact-sheet-president-donald-j-trump-strengthens-the-reliability-and-security-of-the-united-states-electric-grid/

⁸ https://www.whitehouse.gov/presidential-actions/2025/04/rregulatory-relief-for-certain-stationary-sources-to-promote-american-energy/

⁹ https://www.whitehouse.gov/fact-sheets/2025/04/fact-sheet-president-donald-j-trump-lifts-burdensome-epa-restrictions-on-coal-plants/

¹⁰ https://www.whitehouse.gov/presidential-actions/2025/01/regulatory-freeze-pending-review/

¹¹ https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/

¹² https://www.whitehouse.gov/presidential-actions/2025/01/declaring-a-national-energy-emergency/

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• Executive Order Putting America First in International Environmental Agreements.¹³

Taken together, President Trump's executive actions and proclamations, as well as the tone established by his administration, provide greater confidence that power plant owners will face a more reasonable regulatory environment for maintaining reliable electric-generating resources, including coal and natural gas plants, during the current administration

 $^{^{13}\} https://www.whitehouse.gov/presidential-actions/2025/01/putting-america-first-in-international-environmental-agreements/$

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 10 RESPONSIBLE PARTY: Denise Foster Cronin and Julia J. Tucker

<u>Request 10.</u> Reference the April 4, 2025 PJM letter to President Trump titled Support for Generating Unit Presidential Exemptions in the PJM Region, accessible at the link in the footnote below.

a. Explain in detail whether EKPC agrees with PJM's concerns for premature thermal generation retirements that are due to environmental regulations.

b. Explain in detail whether EKPC shares PJM's concerns based upon the North American Electric Reliability Corporation's ("NERC") 2024 Reliability Study that states North America is facing a critical resource adequacy challenge due to surging demand growth and thermal generators announced plans for retirement.

<u>Response 10.</u> Please refer to the response to Item 1. Additionally see *Electronic Application of East Kentucky Power Cooperative, Inc. for 1) Certificates of Public Convenience and Necessity to Construct a New Generation Resources; 2) For a Site Compatibility Certificate Relating to the Same; 3) Approval of Demand Side Management Tariffs; and 4) Other General Relief,* Rebuttal Testimony of Julia Tucker for additional concerns.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 11 RESPONSIBLE PARTY: Denise Foster Cronin

<u>Request 11.</u> Explain in detail whether EKPC agrees with PJM's April 22, 2025 letter to New Jersey, in which it asserts that states like New Jersey have become increasingly dependent on electricity imports from other parts of PJM to keep the lights on because there is insufficient instate generation capacity available to meet in-state demand. As thermal generation retires, in part, because of various state and federal policy pressures, it creates a tightening supply-demand balance, which inevitably increases prices.

<u>Response 11.</u> EKPC does not purport to be an expert on New Jersey energy policy. Based on EKPC's experience, it would seem likely that having insufficient in-state resources to meet the state's electricity supply needs would make ensuring resource adequacy more challenging. However, based on the advocacy of policy makers and consumer advocates in New Jersey, what is most concerning is that it appears a significant percentage of the capacity requirement for New Jersey load is satisfied through reliance on the PJM RPM Capacity Market without any significant measure of self-supply or bilateral contract hedge with resources inside New Jersey, or elsewhere in PJM, that can be delivered into New Jersey. EKPC agrees with the proposition that increased

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reliance on the PJM Capacity Market, especially with the forecasted rapid growth of load over the next several years, will serve to create a tighter supply-demand balance (and potentially inadequate supply situation), which will increase prices. Additionally, as EKPC presented to the Federal Energy Regulatory Commission in Docket No. AD25-17 in the pre-filed testimony of Denise Foster Cronin for the resource adequacy technical conference, this type of situation leads to an unreasonable increased risk of load shedding for those entities like EKPC who endeavor to match energy supplies with forecasted load needs.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 12 RESPONSIBLE PARTY: Brad Young

Request 12. Provide a general summary and status update as to EKPC's negotiations with Keeneland Solar, LLC.

Response 12. The only negotiations EKPC has been involved in with Keeneland Solar were the requirements for interconnection to the EKPC transmission system. PJM chose to file an unexecuted Generation Interconnection Agreement with the FERC due to an impasse in those negotiations. The developer subsequently elected to withdraw its interconnection request, so the project is no longer an active project in PJM.
ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 13 RESPONSIBLE PARTY: Brad Young

<u>Request 13.</u> Provide a general summary and status update as to EKPC's negotiations with Northern Bobwhite Solar LLC.

Response 13. EKPC closed on the Asset Purchase Agreement with EDF Renewables on April 18, 2025, thus assuming full ownership of the Northern Bobwhite Solar LLC project, and PJM provided the Notification of Assignment transferring the Generation Interconnection Agreement / Interconnection Agreements to EKPC effective April 22, 2025. Construction is currently planned to start in December 2025 with Commercial Operations scheduled for March 2027.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 14 RESPONSIBLE PARTY: Julia J. Tucker

Request 14.Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.5 SustainabilityPlan, page 9.

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

b. Explain in detail how EKPC plans to achieve a 10% sustainability goal of new renewable energy by 2030.

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

d. Explain in detail how EKPC plans to achieve a 15% sustainability goal of new renewable energy by 2035.

e. Explain in detail how the above-referenced sustainability goals align with a least-cost, reliable electric grid for EKPC's customers.

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f. 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 14.

a and c. The 10% and 15% goals to increase renewable energy were developed to meet EKPC's goal of 35% reduction in carbon emissions by 2035. Refer to Case no. 2024-00370, EKPC's Response to Commission Staff's Second Request for Information, Item 6a for a summary of EKPC's development of its 35% reduction in carbon emissions by 2035.¹⁴

b and d. EKPC plans to move forward with solar projects as described in Case No. 2024-00129 and as discussed in Case No. 2024-00370 and within this 2025 IRP. EKPC evaluates each potential project, regardless of their fuel source, on its own economic merit and will seek approval from the Commission through a CPCN application.

e-f. EKPC is not adding renewable solely to meet EKPC sustainability goals. EKPC purchases approximately 40% of its total energy needs from the PJM energy market. These purchases are economic and allow EKPC to efficiently dispatch its generation while taking advantage of lower-cost energy in the market when available. EKPC intends to build larger, utility-scale, solar farms to produce energy to economically offset those market purchases. In addition, these solar facilities will provide end-use commercial and industrial members with the option to contract renewable generation and/or RECs through EKPC's Rate-H tariff.

¹⁴ Case No. 2024-00370, EKPC's Responses to Commission Staff's Second Request for Information (filed January 31, 2025).

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 15 RESPONSIBLE PARTY: Christopher E. Adams and Greg Cecil

Request 15. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.6 Power Supply Actions, page 9 - 14.

a. Explain how EKPC takes measures to hedge its energy price exposure throughout the entire year.

b. Explain the significant savings benefits that EKPC realized from operating within PJM from June 1, 2013, through May 31, 2024.

c. Explain how EKPC is obtaining significant savings from PJM if it had to pay a capacity performance penalty of \$13,195,090.05 in 2023 to PJM.

d. Due to natural gas generation being unavailable due to natural gas curtailment during Winter Storm Elliott, explain why it is important to have coal-fired generation available.

e. Confirm that out of all of the proposed new generation assets that EKPC has filed certificates of public convenience and necessity for with the Commission, the only assets that are capable of providing continuous electricity will be the thermal generating unit projects. If not confirmed, explain in detail why not.

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f. Explain whether the proposed solar generation assets known as Cooperative Solar Fayette (40 MW), Cooperative Solar Marion (96 MW), and Star Hill Farms (0.5 MW) will have battery storage. If not, explain in detail why not and ensure to include a discussion as to whether battery storage is cost prohibitive.

i. Explain whether requests for certificate of public convenience and necessity ("CPCN") have been filed for these proposed solar generation assets with the Commission.

g. EKPC asserts that in addition to the aforementioned solar farms, EKPC is including an additional four solar farms in the IRP totaling 321 MW of peak energy output, but have not been filed at the Commission for approval.

i. Provide an explanation as to why EKPC is proposing additional solar farms when they are not capable of providing continuous electricity.

ii. Explain why no CPCN requests have been filed for these additional solar farms.

h. Provide a general summary and update as to the negotiations for the 300 MW hydro purchased power agreement, as well as identify the entity that will provide the hydropower.

i. 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 prices between 2025 – 2030.

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

ii. Explain in detail what type of power purchase agreements EKPC plans to enter into to cover the future winter periods.

Response 15.

a. Refer to EKPC's response to Staff's fourth request for information, Item 7b-c, in PSC Case No. 2024-00370.

b. Refer to Item 8b.

c. EKPC was awarded bonus payments for over-performance during the capacity performance events. In addition, EKPC received insurance payment from its capacity performance policy. Even without the bonus and insurance payments, EKPC's Owner-Members have saved over the subscription of the

d. Coal-fired generation provided energy in critical times during Winter Storm Elliott. The ability to store fuel on-site ahead of extreme weather events provides both reliability during extremely high loads and price protection against volatile market prices. EKPC's coal assets are built not only to provide reliable, cost-competitive energy, but also to support the local transmission system by provided needed reactive capability to the grid in times of stress. This is particularly true in the southern part of EKPC's transmission system, where Cooper Station provides critical voltage support during high-demand periods. EKPC also believes that on-site fuel back up is essential for natural gas resources. Both the Liberty RICE and Cooper CCGT projects boast on-site fuel oil backup which will be available should natural gas become unavailable during peak demand periods. In addition, Bluegrass Units 1-3 as well as Smith Units 1-7 are also dualfuel capable.

e. Confirmed, only those thermal resources EKPC has applied for (Liberty RICE, Cooper CCGT, and the natural gas co-fire conversions) provide dispatchable capacity and energy with dual-fuel backup capability.

f. No, the solar projects will not have battery storage included. This is driven by the economics of battery storage which, according to NREL, is \$2,190/kw, or \$876 million for 400 MW of storage. This is more expensive than a 745 MW natural gas combined cycle at \$1,082/kw, or \$806 million.

g.

i. While the solar farms cannot provide dispatchable capacity and energy with dual- fuel backup capability and are not projected to contribute to EKPC's capacity reserves, they are projected to economically offset market purchases thus driving down the average cost to EKPC's Owner-Members through the Fuel Adjustment Clause.

ii. EKPC anticipates filing Certificate of Public Convenience and Necessity for the four solar projects no later than September 30, 2025.

h. Negotiations have ceased with Brookfield Renewable Partners with regards to output from its Holtwood Hydro resource in Pennsylvania. The resource is no longer available for contracting during the time period needed by EKPC.

i.

i. EKPC's summer peak forecasted load is approximately 1,000 MWs lower than its winter peak forecasted load. Therefore, EKPC anticipates having enough capacity to meet its summer peak load. EKPC does project a need for PJM accredited capacity due to the ELCC-adjusted capacity values compared to EKPC load obligations in the capacity market. Refer to EKPC's response to, Item 28b for a detailed explanation regarding the ELCC-adjusted capacity position.

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ii. EKPC plans to enter into short-term bi-lateral physical purchase power agreements ("PPA") for the December, January, and February time periods for the 2025/26 through 2030/31 winter seasons to adequately hedge its Owner-Member's portfolio until such time generation assets can be built. These physical PPAs would be tied to a resource(s) within PJM, but not necessarily in the EKPC zone. They would provide a known price hedge against volatile energy market prices for a portion of energy needed to supply the portfolio needs during the winter months.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 16 RESPONSIBLE PARTY: Jerry Purvis

Request 16. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.8 Issues or Uncertainties that Could Affect Successful Implementation of Plan, pages 17 - 18. EKPC states that it intends to work with federal and state stakeholders to ensure the economic viability of its existing and future resources to meet the challenges and opportunities in complying with current and proposed environmental regulations. Provide a detailed list of how all of President Trump's Executive Orders are/will affect EKPC, including but not limited to the following: January 20, 2025 Executive Order Unleashing American Energy, February 14, 2025 Executive Order Establishing the National Energy Dominance Council,7 April 8, 2025 Executive Order 14241,8 April 8, 2025 Executive Order Protecting American Energy from State Overreach,9 and the April 8, 2025 Executive Order Strengthening the Reliability and Security of the United States Electric Grid,10

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<u>Response 16.</u> President Donald J. Trump after his inauguration January 20, 2025, issued numerous Executive Orders (EO) making energy and the environment a priority for his Administration. He issued:

•Declaring a National Emergency

•Unleashing American Energy

•Putting America First International Environmental Agreements

•*Regulatory Freeze Pending Review*

Plus, those listed above.

EO Declaring a National Emergency applied to energy and energy resources including crude oil, natural gas, lease condensates, natural gas liquids, refined petroleum products, uranium, coal, biofuels, geothermal heat, kinetic movement of flowing water, and critical minerals. This declaration authorizes Federal agencies and Cabinet Secretary's to use all relevant lawful emergency and authorities available to them to expedite complete of all appropriated infrastructure, energy, environmental and natural resources projects. The EOs set the tone for federal agencies and expedites federal agency reviews to unleash America's energy, put America first, remove the US from the Climate Accord, and immediately reduced the authority of the Environmental Council for Equality (CEQ). Federally delegated authority to states is on the same regulatory time frame as before the administration change.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 17 RESPONSIBLE PARTY: Julia J. Tucker

Request 17. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.11 Significant Changes from 2022, EKPC Changes Mission Statement, page 21. Provide what the prior EKPC mission statement was before the Board of Directors approved the change in 2024.

Response 17. EKPC's mission statement prior to the change in 2024 was, "EKPC exists to serve its member-owned cooperatives by safely delivering reliable, affordable and sustainable energy and related services." EKPC's current mission statement is, "EKPC exists to serve its member-owned cooperatives by safely delivering reliable, competitive and sustainable energy and related services." The only change to the mission statement was the replacement of affordable with competitive.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 18 RESPONSIBLE PARTY: Julia J. Tucker

Request 18. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.11 Significant Changes from 2022, Avoided Costs, page 22. EKPC notes that the cost of the Reciprocating Internal Combustion Engine ("RICE") that is pending a CPCN request is substantially higher than the recent PJM BRA values. Expound on this statement and ensure to explain why the cost is substantially higher.

Response 18. The statement references EKPC's use of the RICE resource for avoided cost calculations in its DSM and EE programs as opposed to its previous methodology of using the historical PJM BRA values. PJM capacity market prices have risen substantially since the PJM BRA values were used. The two avoided capacity values, that of the RICE unit and the recent PJM BRA clearing price, are more similarly aligned today.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 19 RESPONSIBLE PARTY: Julia J. Tucker

Request 19. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.11 Significant Changes from 2022, Tax Credits, page 23. EKPC states that it included Inflation Reduction Act ("IRA") tax credits for many measures in the cost-effectiveness calculations and results in the IRP.

a. If the IRA is either repealed in full or in part, explain whether EKPC plans to update its cost-effectiveness calculations for the IRP.

b. If the IRA is either repealed in full or in part, explain how that will affect EKPC's decisions to pursue large amounts of solar energy.

Response 19.

a. No, the IRP is a snapshot in time with cost-effectiveness calculations produced from best available data at the time of filing.

b. EKPC will reassess economics on a project-by-project basis and make a recommendation to its Board of Directors on whether to move forward with the project.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 20 RESPONSIBLE PARTY: Scott Drake

Request 20. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.11 Significant Changes from 2022, DSM Budget and Savings, page 25. Explain in detail why EKPC's DSM budget (in terms of present value) for the 2025 IRP is \$101 million, which is 70% higher than the budget for the 2022 IRP, which was \$59 million.

Response 20. EKPC's DSM budget (in terms of present value) for the 2025 IRP is 70% higher than the budget (in terms of present value) for the 2022 IRP for the following reasons:

- 1. There are more DSM programs in the 2025 IRP vs the 2022 IRP
- 2. The incentives are higher for several programs
- The participation estimates are higher due to higher incentives and more DSM programs
- 4. Higher participation results in larger expenditures for the DSM programs

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 21 RESPONSIBLE PARTY: Christopher E. Adams

Request 21. Refer to the 2025 IRP, Section 1.0 Executive Summary, 1.11 Significant Changes from 2022, Difference between 2025 Expansion Plan and 2022 Expansion Plan, Table 1-4, page 31. Explain why EKPC changed its proposal in the 2022 IRP from a 225 Simple Cycle CT for 2032 to a 214 MW Rice in 2029 and a 745 MW CC in 2031 for the pending IRP.

Response 21. EKPC assumed the Liberty RICE and Cooper CCGT units as assets in the base case assumptions in the pending IRP. Please see Case No. 2024-00310, EKPC's Response to Commission Staff's First Request for Information, Item 6¹⁵, which outlines the primary reasons EKPC prefers a RICE facility over a similarly sized simple cycle combustion turbine unit.

EKPC's 2022 IRP was based on its 2020 long-term load forecast, which did not show a need beyond the simple cycle combustion turbine in the 2032 timeframe. Refer to Case No. 2024-00370, Application, Exhibit 3, Direct Testimony of Julia Tucker for a detailed explanation of EKPC's updated 2024 long-term load forecast and how it compared against the 2020 and 2022 long-term load forecasts, which drove the need for the Cooper CCGT unit.

¹⁵ Case No. 2024-00310, EKPC's Response to Commissions Staff's First Request for Information (filed November 12, 2024).

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 22 RESPONSIBLE PARTY: Christopher E. Adams

Request 22. Refer to the 2025 IRP, Section 3.0 Load Forecast, 3.2 Load Forecast, 3.2.4 Historical Data and Forecast Results, Table 3-5, page 53. Provide Table 3-5 including the information for the years 2024, as well as 2025 thus far, and 2025 forecasted.

Response 22.

EKPC Recorded Annual Energy Sales (MWh) and Energy Requirements (MWh),											
2019 - 2025											
	2019	2020	2021	2022	2023	2024	2025*				
Total Residential	7,036,916	6,915,401	7,127,199	7,218,271	6,598,806	7,005,290					
Residential Seasonal	663	662	489	753	1,069	1,091					
Small Commercial	1,925,821	1,791,061	1,889,497	1,940,673	1,915,931	2,000,144					
Large Commercial/ Industrial	3,314,391	3,251,726	3,367,170	3,720,863	4,224,079	4,365,331					
Public Authorities	39,829	34,187	38,218	38,012	37,126	38,405					
Public Street and Highway Lighting	8,770	8,771	8,249	7,633	7,799	7,634					
Total Sales	12,326,390	12,001,809	12,430,821	12,926,204	12,784,809	13,417,896					
Office Use	10,232	9,444	9,206	8,758	8,133	7,659					
Distribution % Loss	3.6%	3.9%	3.5%	4.1%	3.2%	3.2%					
EKPC Sales to Members	12,798,772	12,499,902	12,886,454	13,488,016	13,211,972	13,872,048					
EKPC Office Use	7,891	7,313	7,631	7,529	7,207	7,424	2,903				
Transmission Loss (%)	2.5%	2.2%	2.1%	1.4%	1.8%	1.8%					
Net Total Requirements	13,140,704	12,794,457	13,183,458	13,700,232	13,465,331	14,145,882	5,080,642				

Table 3-5 (updated 5/2025) EKPC Recorded Annual Energy Sales (MWh) and Energy Requirements (MWh),

Note: Owner-Member's Form 7 data for 2025 is not available.

*Through April 30, 2025

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 23 RESPONSIBLE PARTY: Christopher E. Adams

<u>Request 23.</u> Refer to the 2025 IRP, Section 3.0 Load Forecast, 3.3 Details of Assumptions, 3.3.3 Electricity Rates, page 60. EKPC states that based on previous research studies and benchmarking, the elasticity assumptions for the residential and commercial classes range between -.10 and -.20. Expound on these elasticity assumptions further, and if possible provide the dollar amount that is associated with the elasticity assumption results for the residential and commercial classes.

<u>Response 23.</u> EKPC clarifies IRP 3.3.3 Electricity Rates, page 60. "...the elasticity assumptions for the residential and small commercial classes range between -.10 and -.20." The large commercial (industrial) class does not include a price elasticity assumption. The price elasticities included in the statistically adjusted end-use models are based on industry standard assumptions. Studies from Electric Power Research Institute ("EPRI")¹⁶ and the Energy Information Administration ("EIA")¹⁷ support the assumptions.

¹⁶ https://www.epri.com/research/products/0000000001022196

¹⁷ https://www.eia.gov/analysis/studies/buildings/energyuse/pdf/price_elasticities.pdf

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The price elasticity assumption is included in the regression models to incorporate consumer response to changes in the price of electricity rather than affecting the cost itself. For example, if the price of electricity increases by 1%, consumers would respond by lowering their electricity usage by 0.10% to 0.20%.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 24 RESPONSIBLE PARTY: Scott Drake

Request 24. Refer to the 2025 IRP, Section 3.0 Load Forecast, 3.7 Load Research and Research and Development Activities, 3.7.2 Research and Development, page 80. EKPC asserts that it has submitted multiple applications for project funding via the Infrastructure and Jobs Act's Grid Resilience and Innovations Partnerships. Provide an update as to all submitted applications, including whether the applications have been approved or denied. If approved, provide the amount of funding that is to be provided, and designate whether the funding is in the form of a loan or grant.

Response 24. EKPC submitted a project application for two (2) sperate rounds of GRIP funding. For each funding round, the National Rural Electric Cooperative Association ("NRECA") led the application process by developing a consortium of projects from multiple electric cooperatives. EKPC's projects were just one of many projects within each NRECA's GRIP application. Neither application was chosen by DOE for funding.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 25 RESPONSIBLE PARTY: Christopher E. Adams

Request 25. Refer to the 2025 IRP, Section 4.0 Existing and Committed Capacity Resources Summary, Coal Fired Units, pages 82 – 83.

a. Explain why EKPC's coal-fired generating units are critically important to maintain electricity reliability 24 hours a day, 7 days a week, 365 days a year.

b. Explain in detail whether EKPC plans to retire the Cooper Station 1, which is a 116 MW coal fired generating unit. If so, provide the retirement date and the reason for retirement.

c. Provide the estimated remaining life of Cooper Station 1.

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

e. Explain in detail whether EKPC plans to retire the Cooper Station 2, which is a 225 MW coal fired generating unit. If so, provide the retirement date and the reason for retirement.

f. Provide the estimated remaining life of Cooper Station 2. g. EKPC states that a pollution control system was added to Cooper Station 2 unit and began commercial operation in summer of 2012. EKPC further asserts 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 2 in 2016. Provide a

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general overview of all other projects/upgrades that need to be completed on Cooper Station 2 in the next ten years.

h. Explain in detail whether EKPC plans to retire Spurlock Station Unit 1, which is a 300 MW coal fired generating unit. If so, provide the retirement date and the reason for retirement.

i. Provide the estimate remaining life of Spurlock Station Unit 1.

j. EKPC asserts that Spurlock Station Unit 1 has had extensive modification and enhancements to comply with coal combustion residuals and effluent limitation guidelines. Provide a general overview of all projects/upgrades that need to be completed on Spurlock Station Unit 1 in the next ten years.

k. Explain in detail whether EKPC has any plans to retire the Spurlock Station Unit 2, which is a 510 MW coal fired generating unit. If so, provide the retirement date and the reason for retirement.

1. Provide the estimated remaining life of Spurlock Station Unit 2.

m. EKPC asserts that Spurlock Station Unit 2 has had extensive modification and enhancements to comply with coal combustion residuals and effluent limitation guidelines. Provide a general overview of all projects/upgrades that need to be completed on Spurlock Station Unit 2 in the next ten years.

n. Explain in detail whether EKPC plans to retire the Spurlock Station Unit 3, which is a 268 MW coal fired generating unit. If so, provide the retirement date and the reason for retirement.

o. Provide the estimated remaining life of Spurlock Station Unit 3.

p. Provide a general overview of all projects/upgrades that need to be completed on Spurlock Station Unit 3 the next ten years. q. Explain in detail whether EKPC has any plans to retire the Spurlock Station Unit 4, which is a 268 MW coal fired generating unit. If so, provide the retirement date and the reason for retirement.

r. Provide the estimated remaining life of Spurlock Station Unit 4.

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

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

u. EKPC asserts that International Paper has a corrugated paper recycling facility adjacent to EKPC's Spurlock Station. EKPC further states that the steam needed for International Paper is supplied by Spurlock Unit 2, but it can also be supplied from Spurlock Unit 1 when needed. Explain what is meant when EKPC states that, "[o]n average, International Paper operates 99 percent of the time and Spurlock 2 operates at an average of 510 MW."

Response 25.

a. Refer to EKPC's response to Item 15d, above.

b. EKPC has no plans to retire Cooper Unit 1 at this time, however considered Cooper Unit 1 to be in "mothball" status. Cooper 1 is removed from the base case modeling beginning January 2032., EKPC has stated in Case No. 2024-00310 and Case No. 2024-00370 that the Cooper CCGT is considered an eventual replacement for Cooper Unit 1.

c. The financial end life of Cooper Unit 1 is December 2030.

d. Please reference Table 7.2 of the original IRP submission. For years 6-10 the same types of projects would be undertaken based on the units run time and to ensure safe and reliable operation of the unit. EKPC has a CPCN to co-Fire the unit which if approved would be the only project planned to upgrade Cooper 1.

e. EKPC has no plans to retire Cooper Station Unit 2.

f. The financial end life of Cooper Station 1 is December 2038.

g. Please reference Table 7.2 of the original IRP submission. For years 6-10 the same types of projects would be undertaken based on the units run time and to ensure safe and reliable operation of the unit. EKPC has a CPCN to co-Fire the unit which if approved would be the only project planned to upgrade Cooper 2.

h. EKPC has no plans to retire Spurlock Station Unit 1.

i. The financial end life for Spurlock Station Unit 1 is December 2042.

j. Please reference Table 7.2 of the original IRP submission. For years 6-10 the same types of projects would be undertaken based on the units run time and to ensure safe and reliable operation of the unit. EKPC has a CPCN to co-Fire the unit which if approved would be the only project planned to upgrade Spurlock 1.

k. EKPC has no plans to retire Spurlock Station Unit 2.

1. The financial end life for Spurlock Station Unit 2 is December 2042.

m. Please reference Table 7.2 of the original IRP submission. For years 6-10 the same types of projects would be undertaken based on the units run time and to ensure safe and reliable operation of the unit. EKPC has a CPCN to co-Fire the unit which if approved would be the only project planned to upgrade Spurlock 2.

n. EKPC has no plans to retire Spurlock Station Unit 3.

o. The financial end life for Spurlock Station Unit 3 is December 2049.

p. Please reference Table 7.2 of the original IRP submission. For years 6-10 the same types of projects would be undertaken based on the units run time and to ensure safe and reliable operation of the unit. EKPC has a CPCN to co-Fire the unit which if approved would be the only project planned to upgrade Spurlock 3.

q. EKPC has no plans to retire Spurlock Station Unit 4.

r. The financial end life for Spurlock Station Unit 4 is December 2049.

s. Please reference Table 7.2 of the original IRP submission. For years 6-10 the same types of projects would be undertaken based on the units run time and to ensure safe and reliable operation of the unit. EKPC has a CPCN to co-Fire the unit which if approved would be the only project planned to upgrade Spurlock 4.

t. Merger, acquisitions, and bankruptcies over the past several years have caused contraction within the domestic thermal coal market. A large Illinois Basis coal supplier experienced a Force Majeure event in the fall of 2021, which was followed by a February 2022 geopolitical event in Europe and Asia that caused the U.S. coal market to become nearly illiquid for a brief period of time. Decreased supply and increased demand continued to put upward pressure on pricing of some coal supply agreements through 2024. These past difficulties of obtaining coal for EKPC's Spurlock and Cooper Station have been remedied. Due to the limited number of suppliers and the quality of coal required, it would be challenging to get a large quantity of coal to Cooper Station in a short period of time. Subject to change in a period of volatile market dynamics, but EKPC does not currently foresee any difficulties in obtaining coal for its coal-fired

generating units based on the current projected burns and current market conditions.

u. International Paper requires high reliability in supplying steam. The capability of supplying steam from the primary source which is Spurlock 2 and the backup source which is Spurlock 1 results in a greater than 99% reliability.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 26 RESPONSIBLE PARTY: Craig Johnson

Request 26. Refer to the 2025 IRP, Section 4.0 Existing and Committed Capacity Resources Summary, Natural Gas/Fuel Oil, pages 83 – 84.

a. 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 and the reason for the retirement.

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

c. 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 26.

a. There are no plans to retire any of the natural gas/fuel oil generating units at either J.K. Smith Station or Bluegrass Generation Station. b.

Financial End Life

- Smith CT Unit 1 Dec-2036
- Smith CT Unit 2 Dec-2036
- Smith CT Unit 3 Dec-2036
- Smith CT Unit 4 Dec-2041
- Smith CT Unit 5 Dec-2041
- Smith CT Unit 6 Dec-2045
- Smith CT Unit 7 Dec-2045
- Smith CT Unit 9 Dec-2050
- Smith CT Unit 10 Dec-2050
- Bluegrass Unit 1 Dec-2044
- Bluegrass Unit 2 Dec-2044
- Bluegrass Unit 3 Dec-2044

c. Please reference Tables 7.1 and 7.4 of the original IRP submission. For years 6-10 the same types of projects would be undertaken based on the units starts and/or run time and to ensure safe and reliable operation of the units.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 27 RESPONSIBLE PARTY: Christopher E. Adams

Request 27. Refer to the 2025 IRP, Section 4.0 Existing and Committed Capacity Resources Summary, Southeastern Power Administration ("SEPA"), pages 83 – 84. EKPC purchases 170 MW of hydropower from SEPA on a long-term basis. Laurel Dam provides 70 MW, and the remaining 100 MW is supplied from the Cumberland River system of hydropower projects. EKPC's purchased hydropower could be affected by the Nashville District Corps of Engineers Hydropower Program's Capital Improvement Plan 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.

a. Provide all updates to the above-referenced Capital Improvement Plan.

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

c. 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.

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

e. Regarding the renewable hydropower that EKPC purchases from SEPA:

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 27.

a. See attached Capital Improvement Plan, AG 1-27a.pdf.

b. The base rate for capacity is applied each month, and a credit is applied for any capacity shortfall in that billing period.

c. The contract rate does not change, but EKPC receives a credit each month for the amount of capacity that is less than 170MW.

d. EKPC is not seeking an alternate to the SEPA hydro power at this time.

e.

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

ii. Yes, the hydropower is reliable. EKPC receives its annual allocation of energy from the Cumberland units in addition to the output of Laurel Dam. In the past 12 months,

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EKPC has received 188,121 MWh from the Cumberland River system units, which is over its annual allocation of 186,000 MWh. The system has a 34% capacity factor on average, which is comparable to other run-of-river hydro resources. Laurel Dam produced approximately 60,000 MWh in 2024 and has produced another 60,000 MWh year-to-date in 2025.

iii. The current rate is \$14.80/MWh. These are valuable energy and capacity resources for EKPC and its Owner-Members.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 28 RESPONSIBLE PARTY: Christopher E. Adams and Craig Johnson

Request 28. Refer to the 2025 IRP, Section 4.0 Existing and Committed Capacity Resources Summary, Renewable Sources, Landfill Gas page 84.

a. Regarding the five plants that EKPC asserts it owns and operates to generate 13.8 MW of renewable power from methane gas at landfills:

i. Explain why EKPC now only owns and operates five plants instead of the six plants listed in the 2022 IRP.

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

iii. Explain whether the five plants provide reliable and continuous electricity to its customers.

iv. Provide each plant's capacity factor.

v. For the energy produced at these five plants provide the cost per MW.

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

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

Response 28.

a.

i. EKPC was forced to cease operations at the Laurel Ridge Landfill due to deteriorating landfill gas availability at that site, and the gas purchase contract was not renewed.

ii. EKPC purchases methane gas from each landfill site and burns that gas in modified CAT engines to produce energy. The all-in cost (fuel cost, O&M expenses, fixed costs, and REC revenues) to produce energy from the landfill plants in 2024 was \$24.03/MWh.

iii. Yes, the landfill gas plants are reliable generation and provide energy when methane gas is available to run the units.

iv.

LFG Plant Capacity Factors (Plant Factor)

	Month End- December 31, 2024								
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5				
Bavarian	78.07	67.3	97.04	74.39	91.08				
Glasgow	71.24								
Green Valley	91.09	94.3	98.41						
Hardin Co.	1. 7 2	2.4	2.99						
Pendleton Co.	93.87	103.6	101.34	94.71					

v. Refer to Item 28.a.ii, above.

vi. Please refer to attachment AG DR1 28vi.xlsx.

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vii. Please reference Table 7.5 of the original IRP submission. For years 6-10 the same types of projects would be undertaken based on the units starts and/or run time and to ensure safe and reliable operation of the units.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 29 RESPONSIBLE PARTY: Christopher E. Adams and Craig Johnson

Request 29. Refer to the 2025 IRP, Section 4.0 Existing and Committed Capacity Resources Summary, Renewable Sources, Photo Voltaic Solar, page 84. EKPC asserts that the 60-acre Cooperative Solar Farm One, located in Winchester, KY, 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 2024 there were 293 subscribers with 1,827 panels.

a. Explain what EKPC is doing with the power generated by the additional 30,473 solar panels that the customers are not subscribing to at this time.

b. Explain why EKPC intends to build any more solar farms in the near future even though there is a small number of subscribers to Cooperative Solar Farm One.

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

d. 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.

e. Explain whether EKPC has battery storage for the solar farm, and if not, explain whether battery storage is cost prohibitive.

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f. 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.

g. Provide the solar farm's capacity factor.

h. Confirm that the solar farm does not provide reliable and continuous electricity to customers. If not confirmed, explain why not.

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

j. 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.

k. Explain whether EKPC is concerned with its solar energy farms due to the blackout that Spain experienced on April 28, 2025, which was most likely caused by solar energy inverter issues. If not, explain in detail why not.

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

Response 29.

a. EKPC allocates energy, capacity, and renewable energy credit ("REC") revenue to the licensees based on the number of panels licensed. Revenues from unlicensed panels benefit the entire rate-base through the same energy cost savings (via the Fuel Adjustment Clause), capacity cost savings and revenue generated by the RECs (via EKPC margin).

b. EKPC intends to build larger, utility-scale, solar farms to produce energy to economically offset market purchases and to provide end-use commercial and industrial members with the option to contract renewable generation. These large-scale solar farms will not be offered to residential end-use retail members, but that option will remain open for Cooperative Solar Farm One.

c. An end-use retail member may license panels form Cooperative Solar Farm One by first visiting <u>www.cooperativesolar.com</u>, then either entering their address or selecting their local Owner-Member Cooperative. The retail member will then be directed to a website with information related to cooperative solar and the option to sign-up for panel licensing.

d. End-use retail members pay for the panel license and in return are eligible for revenues associated with that panel(s) contribution to energy, capacity, and REC revenues. The cost of the project is borne by EKPC members as a whole.

e. No, there is no battery storage at Cooperative Solar Farm One. When the project was evaluated, battery storage was cost prohibitive. BESS continues to be cost prohibitive today.

f. Any solar panel only produces energy when it has access to sunlight.

g. Cooperative Solar Farm One had a capacity factor of 17% in 2024.

h. The solar farm only provides energy when the panels have access to sunlight. The solar farm is not dispatchable and does not provide a firm capacity benefit to EKPC. The farm offsets a portion of market energy purchases and PJM-related capacity costs and receives revenues from RECs.

i. Theoretically, the solar panels should last 20 to 25 years. However Cooperative Solar One has been in operation for six years and has had around 50 bad solar panels. Two from panel
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failures, several from vandalism, and two which burnt up from loose connections. With the bulk of them due to shorting out or open diode. Typically, the most failures occur in the first couple years, and then a steep downward trend after that. The cost varies depending on the wattage panel being replaced, but would normally average around \$300-500.

j. There have been numerous trips from Cooperative Solar One Farm due to weather and grid disturbances. The substation breaker trip twice. Once during a storm and once when a main line went down that crossed the interstate. There have been numerous ground faults trips due to weather and lightning strikes.

k. EKPC is concerned with inverter-based resources' ("IBR") impact on power supply during times when the IBR lacks a fuel source (no sun, no wind, etc.).

1. The energy cost for Cooperative Solar Farm One in 2024 was \$6/MWh.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 30 RESPONSIBLE PARTY: Christopher E. Adams

Request 30. Refer to the 2025 IRP, Section 4.0 Existing and Committed Capacity Resources Summary, Renewable Sources, Photo Voltaic Solar, page 84. EKPC asserts that the most recent addition is a 500kWAC solar facility located in Loretto, KY, and became operational on September 17, 2024.

a. Provide the amount of MW that State Hill Farm is capable of producing.

b. EKPC asserts that this facility is located on the grounds of Maker's Mark. Explain whether all of the solar power output is purchased by Maker's Mark, and if not, explain who is purchasing the solar power output.

c. Explain whether there are subscribers to this solar facility. If not, why not?

d. Explain in full detail whether the costs associated with State Hill Farm 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.

e. Explain whether EKPC has battery storage for the solar farm, and if not, whether battery storage is cost prohibitive

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f. 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.

g. Provide the solar farm's capacity factor.

h. Confirm that the solar farm does not provide reliable and continuous electricity to customers. If not confirmed, explain why not.

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

j. 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.

k. For the solar energy produced at State Hill Farm, provide the cost per MW.

Response 30.

a. Star Hill Farm solar is rated at 0.5 MW.

b. All energy produced by the Star Hill Farm solar facility is purchased by Star Hill Farm. This project was completed in partnership with Star Hill Farm under EKPC's Rate H program.

c. There is only one subscriber, which is Star Hill Farm.

d. All costs associated with Star Hill Farm solar facility are borne by Star Hill Farm.

e. No, there is no battery storage at Star Hill Farm solar. It was not requested by Star Hill Farm for this project.

f. Refer to EKPC's response to Item 29f, above.

g. Star Hill Farm solar had a capacity factor of 5.5% in 2024.

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h. The solar farm supplies Star Hill Farm with a portion of its energy consumption and provides renewable energy credits as part of the lease agreement. It was not designed to fully offset the site's total usage.

i. The solar panels installed at Star Hill Farm should last 20 to 25 years. Typically, the most failures occur in the first couple years, and then a steep downward trend after that. The cost varies depending on the wattage panel being replaced, but would normally average around \$300.

j. There have been seen numerous trips from Star Hill Farms Solar due to weather and grid disturbances.

k. The energy cost for Star Hill Farm in 2024 was \$1/MWh.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 31 RESPONSIBLE PARTY: Christopher E. Adams

Request 31. Refer to the 2025 IRP, Section 4.0 Existing and Committed Capacity Resources Summary, Table 4-6, page 89.

a. Explain in full detail why EKPC is planning to install an additional 457 MW of solar facilities through 2029 even though solar energy does not provide continuous and reliable energy to customers.

b. Explain whether the aforementioned President Trump's Executive Orders, and the potential modification and/or roll back of environmental laws/regulations will affect the plan to install the additional 457 MW of solar facilities. If not, explain why not.

c. Explain whether EKPC is concerned with adding such a large amount of additional solar energy due to the blackout that Spain experienced on April 28, 2025, which was most likely caused by solar energy inverter issues. If not, explain in detail why not.

Response 31.

a. Refer to EKPC's response to Item14e, above.

b. Refer to EKPC's response to Item 19, above.

c. Refer to EKPC's response to Item 29c, above.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 32 RESPONSIBLE PARTY: Scott Drake

Request 32. Refer to the 2025 IRP, Section 5.0 Demand Side Management, 5.4 Integration of DSM with the Resource Plan, page 124. Explain why the cost values are using a 5% discount rate.

Response 32. The 5% discount rate is based on EKPC's financial data.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 33 RESPONSIBLE PARTY: Scott Drake

Request 33. Refer to the 2025 IRP, Section 5.0 Demand Side Management, 5.4 Integration of DSM with the Resource Plan, page 126. EKPC asserts that the TRC for the entire DSM portfolio yields a benefit-cost ratio of 2.44. Provide the parameters for the TRC test score, which indicates whether a program and/or portfolio is cost beneficial.

Response 33. The parameters for the TRC test score are as follows:

The sum of benefits from all DSM Programs: Avoided Energy Costs, Avoided Generation Capacity Costs, Avoided T&D Costs, and Tax Credits

The sum of costs from all Programs: Participant Costs, Distribution System Administrative Costs, and EKPC Administrative Costs.

The sum of benefits divided by the sum of costs yields a cost-effective TRC ratio of 2.44.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 34 RESPONSIBLE PARTY: Darrin Adams

<u>Request 34.</u> Refer to the 2025 IRP, Section 6.0 Transmission and Distribution Planning, 6.1 Introduction, Transmission System, page 130. EKPC asserts that because the Company is a PJM member, the Company closely coordinates transmission planning activities with PJM for the EKPC system. EKPC further states that it works with PJM to develop transmission expansion plans to comply with applicable PJM reliably criteria through the PJM transmission planning process. Explain whether being a member of PJM causes its transmission costs to be higher than if it were not a member of PJM. Provide a copy of all studies, if any.

<u>Response 34.</u> 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, a total of four transmission projects have been required on the EKPC system due to PJM criteria that are 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

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cost impact of PJM membership is an acceleration of an expenditure that will be eventually required to satisfy EKPC planning criteria.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 35 RESPONSIBLE PARTY: Darrin Adams

<u>Request 35.</u> Refer to the 2025 IRP, Section 6.0 Transmission and Distribution Planning,
6.1 Introduction, Transmission System, Membership in PJM, Generation Requests and
Transmission Reinforcements, page 137.

a. EKPC asserts that from 2022 – 2024 it implemented transmission projects associated with five merchant-generation stand-alone solar facilities that are now in service. Explain whether these transmission projects, including any necessary upgrades, were paid for by the merchant-generation solar facilities or EKPC's customers.

b. EKPC asserts that as of January 1, 2025, there were a total of 84 active merchantgeneration facilities in the PJM queue that had requested interconnection to the EKPC transmission system, and all of these projects are either stand-alone solar generation facilities or hybrid solar/battery storage facilities. Explain whether these transmission projects, including any necessary upgrades, will be paid for by the merchant-generation solar facilities or EKPC's customers.

Response 35.

a. All transmission projects required to interconnect each merchant-generation solar facility, as well as any network upgrades to existing transmission facilities needed due to thermal overloads caused or exacerbated by the solar facility, were fully funded by the owner-developer of each solar facility. EKPC customers were not responsible for any transmission costs associated with these merchant-generation projects.

b. Per PJM's Open Access Transmission Tariff, the owner-developer of any generation facility interconnecting to any portion of the transmission system within the PJM Regional Transmission Organization is responsible for all transmission costs necessary to reliably connect the facility, including costs of any upgrades of existing transmission facilities needed due to thermal overloads caused or exacerbated by the generation facility. Therefore, EKPC customers have no cost responsibility for any transmission project associated with merchant-generator interconnections in PJM.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 36 RESPONSIBLE PARTY: Craig Johnson

Request 36. Refer to the 2025 IRP, Section 7.0 Plans for Existing Generating Units, Methodology for Five-Year Major Projects Plan, pages 160 – 173.

a. Provide the total dollar amount of the proposed projects for each generating unit.

b. Provide the projected capacity factor for each unit once all of the identified projects are completed.

Response 36.

 a. Estimates for the proposed projects listed on pages 160-173 are approximately \$215 million in total.

Total	215,383,074
Glasgow LFG	230,000
Pendleton LFG	1,020,000
Hardin Co. LFG	460,000
Bavarian LFG	1,150,000
Green Valley LFG	920,000
Spurlock Scrubber Unit 2	1,365,000
Spurlock Scrubber Unit 1	400,000
Spurlock Scrubber Common	1,590,000
Spurlock Station Unit 4	38,426,500
Spurlock Station Unit 3	31,861,800
Spurlock Station Unit 2	28,484,000
Spurlock Station Unit 1	18,487,750
Spurlock Station Common	11,078,300
Smith Station Unit 10	2,243,080
Smith Station Unit 9	2,573,080
Smith Station Unit 6	2.615.000
Smith Station Unit 5	2 892 500
Smith Station Unit 4	14 763 599
Smith Station Unit 3	319 287
Smith Station Unit 7	1 900 358
Smith Station Unit 1	010 287
Smith Station Common	1 082 000
Bluegrass Station Unit 2	275,295
Bluegrass Station Unit 1	275,295
Bluegrass Station Common	1,144,300
Cooper Station Unit 2	4,234,834
Cooper Station Unit 1	2,537,136
Cooper Station Common	40,958,377

b. The capacity factors for any of the units will not be impacted by these proposed projects.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 37 RESPONSIBLE PARTY: Christopher E. Adams

Request 37. Refer to the 2025 IRP, Section 8.0 Integrated Resource Planning, 8.1 Introduction, page 177. 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. This conventional generation is dispatchable and helps to regulate the intermittent nature of some renewable resources. Confirm that the conventional generation resources that EKPC is referring to are fossil-fuel generation resources such as coal and natural gas.

Response 37. Confirmed.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 38 RESPONSIBLE PARTY: Christopher E. Adams

<u>Request 38.</u> Refer to the 2025 IRP, Section 8.0 Integrated Resource Planning, 8.1 Introduction, Renewable and Partnering Opportunities, page 181.

a. Provide full details concerning EKPC's 2023 purchase of 924 MWh from its one contracted cogeneration facility.

b. 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 38.

a. The 924 MWh of energy was purchased from Cox Waste-To-Energy, Inc. ("Seller"), a qualifying cogeneration ("QF") facility as defined by Section 201 of the Public Utility Regulatory Policies Act of 1978 ("PURPA"). The agreement, entered on November 9, 1994, can be found publicly here:

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https://psc.ky.gov/tariffs/Electric/East%20Kentucky%20Power%20Cooperative,%20Inc/Contrac ts/Cox%20Waste-to-Energy%20Inc/2016-05-

04 Agreement%20for%20Purchase%20of%20Power.pdf

b. 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.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 39 RESPONSIBLE PARTY: Jerry Purvis

Request 39. Refer to the 2025 IRP, Section 9,0 Compliance Planning, pages 214 – 219.

a. Provide updates as to pending legal challenges, roll-back of regulations, and/or modifications or repeals of laws/regulations.

b. Provide updates as to how any changes in (a) will affect EKPC's 2025 IRP and future electric generation decisions.

<u>Response 39.</u> Legal challenges exist for all six of the major EPA rules put forth by the Biden Administration. While EPA notified the public that 31 regulations under EPA would be rolled back, EKPC has not seen any new rulemaking for PM2.5, GHG, MATs, GNF, ELG nor legacy CCR. There have been indications the revised rules will be available in approximately one year. Repeals reside at OMB for GHG and MATs but no further action has occurred. Response 39b. As discussed in Case No. 2024-00370, EKPC believes its current plan will not change based on changing regulations because the regulations could change every four years.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 40 RESPONSIBLE PARTY: Denise Foster Cronin (a – b); Christopher E. Adams (c)

Request 40. Refer to the 2025 IRP, Section 12.0 Federal Regulations and PJM Rule Changes since 2022 IRP that have or could impact EKPC's operations or participation in PJM's markets.

a. Provide updates as to all of the referenced federal regulations.

b. Provide updates as to all of the referenced PJM rule changes.

c. Explain whether EKPC intends to continue to participate in PJM's markets. If not, explain why not. If so, explain why.

Response 40.

a-b. See the list below of updates to federal regulations, includes the original page numbers in the IRP.

• Page 222: PJM issued a Summer 2025 outlook which indicated it is forecasting sufficient generation for typical peak demand this summer but is preparing to call on contracted demand response resources to reduce electricity use under more extreme scenarios.

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(https://insidelines.pjm.com/pjm-summer-outlook-2025-adequate-resources-availablefor-summer-amid-growing-risk/)

- Page 225: in explaining that the average ELCC methodology that was used before the adoption of marginal ELCC, hydropower resources inadvertently was left out of the list of the types of resources to which that methodology applied.
- Page 225: A new Complaint was filed with the FERC challenging the results of the 2025/25 BRA, in Docket No. EL25-76. Also, the FERC approved PJM's proposed settlement of one of the Complaints over EKPC Protest which highlighted negative resource adequacy implications of implementing the settlement.
- Page 226: The stakeholder discussion of refinements to the ELCC accreditation methodology are continuing and are mainly focused on changes that could be effective for the 2028/29 Delivery Year. The work includes considering additional winter operating capacity valuation for thermal generation units. To support this discussion PJM is performing additional analysis. Also, the work includes consideration of how best to model the impacts of generation investments in improving generation performance in determining a resource's capacity accreditation.
- Page 226: PJM stakeholders endorsed a rule change that is currently pending before the FERC which is intended to mitigates the impact of potential ELCC variability on capacity commitments from the Base Residual Auction (BRA) as a result of updates to the relevant ELCC Class Rating and/or ELCC Resource Performance Adjustments that are used to calculate a Capacity Resource's Accredited UCAP during the Delivery Year. The proposal does not lock in the accreditation value. Rather it adjusts the penalty a resource would be

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assessed for a reduction in its Accredited UCAP after the BRA for that Delivery Year; the proposal limits the Capacity Resource Deficiency Charges associated with shortfalls caused by the variability of ELCC updates to be 100% of the resource's relevant clearing price instead of 120%

- Page 226: The rule change to more fully capture Demand Resources' reliability value in their accreditation was approved by the FERC.
- Page 227: FERC opened a "show cause" docket using its authority under Section 206 of the Federal Power Act to determine whether PJM's current rules are unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful in how they treat the situation of a large load seeking to co-locate with a generator interconnected to the transmission system. Multiple rounds of filings have been submitted but no determination by the FERC has been made.
- Page 227: PJM must perform a review of its (1) RPM Capacity Market demand curve, (2) the cost-of-new entry value that is utilized in the development of the shape of the curve and for the Performance Assessment Interval penalty charge, and (3) the methodology used for the Energy and Ancillary Services offset. The Brattle Group was retained by PJM to conduct a review and present its recommendations. The Brattle Group's report has been shared and discussed with PJM and stakeholders. PJM is expected to provide its recommendations in June. Ultimately, PJM will need to make a filing with the FERC in the fall to set these requirements for the 2028/29 Delivery Year and three subsequent Delivery Years.

- Page 227: North Carolina Electric Membership Corporation filed a Complaint against PJM at FERC due to the mismatch in pricing between its pseudo-tied resources and its load charges that result from PJM's interpretation of its rules governing the participation of "grandfathered" pseudo-tied resources in the capacity market. PJM treats them as sinking in the Rest of RTO LDA rather than in the LDA where the resource is designated to sink (which for NCEMC's load is the Dominion LDA) resulting in NCEMC's pseudo-tied generation not being compensated at the same level as NCEMC is being charged for capacity.
- Page 228: PJM filed revisions to black start compensation with the FERC on April 30, 2025. The FERC has not yet issued a ruling.
- Page 233: The FERC issued Order No. 1920-B. EKPC joined with the PJM Transmission Owners amending the appeal to include Order No. 1920-B, which declined to reverse the requirement that the Transmission Owners file with the FERC the cost-allocation proposal states may adopt.
- Page 233: PJM filed in May 2025 seeking FERC approval of a 22-month extension to file its compliance filing on the interregional long-term transmission planning requirements of Order No. 1920. Also, PJM received FERC approval of its extension request to submit the compliance filing addressing all other aspects of Order No. 1920 by December 12, 2025. The PJM Transmission Owners similarly received FERC approval to extend the compliance filing due date for the cost allocation methodology for long-term transmission projects to December 12, 2025.

- Page 234: FERC issued a deficiency notice on PJM's generation replacement filing. PJM has responded to that notice. There has been no further action by the FERC.
- Page 234-235: PJM selected 51 projects under the RRI due to project #50 and #51 receiving a tied score in PJM's assessment. EKPC's new 745 MW Cooper CCGT was accepted as an RRI project and is now being studied by PJM in Transition Cycle #2. EKPC's Liberty Reciprocating Engines project will remain in the new queue cycle process which will initiate in 2026.

c. Yes, EKPC continues to find value for its Owner-Member through participation in PJM markets. Refer to EKPC's responses to Item 8, above.

ATTORNEY GENERAL'S REQUEST DATED MAY 15, 2025 REQUEST 41 RESPONSIBLE PARTY: Christopher E. Adams

<u>Request 41.</u> Refer to the 2025 IRP, Section 12.0 Federal Regulations and PJM Rule Changes since 2022 IRP that have or could impact EKPC's operations or participation in PJM's markets, Gas-Electric Coordination, page 236. EKPC asserts that there are various challenges to ensuring the availability and delivery of natural gas supplies to gas-fired generators in the PJM region. PJM created a special stakeholder group to consider changes to PJM markets and operations rules that might alleviate some of the concerns. Potential changes that would have the most beneficial impact are outside of the authority of PJM or FERC to implement.

a. Explain in detail the challenges of delivery of natural gas to gas-fired generators.

b. Explain in detail what changes to PJM markets and operations rules that might alleviate some of the concerns.

c. Identify the potential changes that would have the most beneficial impact, which are outside the authority of PJM or FERC to implement.

Response 41.

a. PJM highlights three major challenges impacting natural gas unit availability during Winter Storm Elliott in its January 17, 2024 presentation to the Reserve Certainty Senior Task Force: rapid loss of gas supply, unit parameter and temporary exception updates, and [gas market] misalignment with the electric operating day.

b. PJM created the Electric Gas Coordination Subcommittee in 2024 to discuss gas-electric challenges with stakeholders. To date no significant market rule changes have been adopted to address gas-electric coordination issues. From an operations perspective, however, PJM has utilized conservative operations to provide advance commitments to generators that both serve to enable the units to be "hot" going into cold weather and to secure their gas supplies with certainty as to their expected fuel burn profile associated with PJM's operations commitment.

c. There are many items outside of FERC's authority that could be addressed to improve the reliability of natural gas supply to natural gas-fired generating units. One is the lack of winterization of natural gas extraction, transportation, and delivery systems. Gas well-heads froze during Winter Storm Uri in Texas. Another is the lack of alignment of the natural gas and power markets, especially during holiday weekends. This lack of alignment makes it challenging for gasfired generators to make timely commitments for gas transportation and to secure the gas supplies to match their PJM energy market commitment.