COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

ELECTRONIC 2022 INTEGRATED	**)**	
RESOURCE PLANNING REPORT	**)**	**Case No. 2023-00092**
OF KENTUCKY POWER COMPANY	**)**	

ATTORNEY GENERAL'S COMMENTS ON THE INTEGRATED RESOURCE PLAN OF KENTUCKY POWER COMPANY

Pursuant to the Order issued by the Public Service Commission ("Commission") on July 28, 2023, the Attorney General of the Commonwealth of Kentucky, by his Office of Rate Intervention, ("Attorney General" or "AG") provides these Comments on the Integrated Resource Plan ("IRP") filed by Kentucky Power Company ("Kentucky Power" or "Company") on March 30, 2023.

I. Introduction

Kentucky is blessed with tremendous natural resources that have helped power this country for generations. Those resources should continue to provide the economic foundation for life in Eastern Kentucky. With this bounty, there is little need for Kentucky to become intentionally reliant on out-of-state interests to meet its energy needs. Kentucky should control its own energy destiny.

Kentucky Power's plan to import intermittent resources from outside the Commonwealth does not provide the reliable electricity Kentucky law requires, and it will have negative consequences for Eastern Kentucky ratepayers—higher rates and less reliable service. Kentucky Power's customers already pay the highest average residential

bills in the Commonwealth.[1] And yet, in its recent rate filing Kentucky Power is asking the Commission to approve an increase to residential customers' rates of another 18.3%.[2] The Company's IRP offers no solution to this problem, but rather introduces new reliability concerns to boot.

Kentucky Power fails to demonstrate that adequate and reliable electric service will be supplied under their plan because (1) Kentucky Power is a winter-peaking utility but plans to meet summer-peak as a member of PJM, (2) Kentucky Power plans to rely heavily on unreliable, intermittent resources, (3) the energy markets on which Kentucky Power plans to rely are increasingly volatile due to penetration of intermittent resources, (4) heavily subsidized intermittent resources are increasing prices for ratepayers and distorting price signals within those energy markets, and (5) Kentucky law explicitly favors dispatchable resources, not intermittent ones. Further, Kentucky Power's proposal is inadequate because it (6) is facilitated by the Biden Administration's disastrous energy policies, (7) subjects ratepayers to additional cost and risk by locating generation resources out-of-state, and (8) prioritizes ESG emissions targets over cost and service obligations to ratepayers. Finally, (9) the Company's Requests for Proposals ("RFPs") issued on September 22, 2023 are consistent with the Company's plan, favoring intermittent resources at the expense of thermal resources.

In response to the Company's IRP, the Attorney General suggests the Commission take affirmative steps to protect ratepayers by adopting the following measures.

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[1] *Kentucky Energy Profile*, 8th Edition, 2023, https://eec.ky.gov/Energy/KY%20Energy%20Profile/Kentucky%20Energy%20Profile%202023.pdf, (accessed August 28, 2023).

[2] *Electronic Application of Kentucky Power Company for (1) a general adjustment of its rates for electric service; (2) approval of tariffs and riders; (3) approval of accounting practices to establish regulatory assets and liabilities; (4) a securitization financing order; and (5) all other required approvals and relief*, Case No. 2023-00159.

1. Reiterate that Kentucky law requires utilities to replace existing thermal, dispatchable generation with thermal, dispatchable generation when replacement becomes necessary;
2. Make clear that membership in an RTO and compliance with the requirements of that RTO is insufficient resource planning;
3. Require Kentucky Power to investigate the feasibility of entering into purchase power agreements with LG&E/KU and/or EKPC to reduce or eliminate its capacity deficits;
4. Reject any plan for Kentucky Power to serve ratepayers through heavy dependence on unreliable, intermittent resources located outside the Commonwealth;
5. Require Kentucky Power to study whether changing market dynamics demand that ratepayers would be better served by avoiding increasingly costly market purchases and instead, directly generating the energy needed to serve ratepayers;
6. Require Kentucky Power to study the feasibility of fully meeting the generation needs of its ratepayers by producing power fully within the Commonwealth; and
7. Require Kentucky Power to engage in robust transmission planning for planned projects such that all costs are considered before a decision is made with respect to generation investments.

II. Background

A. *Kentucky Power Company*

Kentucky Power serves approximately 163,000 retail customers in a territory that serves much of Eastern Kentucky, including Boyd, Breathitt, Carter, Clay, Elliott, Floyd, Greenup, Johnson, Knott, Lawrence, Leslie, Letcher, Lewis, Magoffin, Martin, Morgan, Owsley, Perry, Pike and Rowan Counties. The Company is wholly-owned by American Electric Power Company, based in Columbus, Ohio.

Kentucky Power's peak demand occurs during the winter of each year. For 2022, its peak demand of 1,359 MW occurred on December 23, 2022.[3] This was less than the all-time peak demand of 1,685 MW, which occurred in 2005.[4] Kentucky Power projects its service territory will see a 0.6% population decline per year over the 15-year term of the IRP.[5] The Company expects retail sales to increase at a rate of 0.2% per year based on growth of the commercial class, which is projected to offset declines in the load of residential and industrial classes.[6]

Kentucky Power owns three existing supply-side resources totaling 1,075 MW of Installed Capacity. The Big Sandy Natural Gas Plant provides 295 MW.[7] Kentucky Power's 50% interest in the West Virginia Mitchell Coal Units provide 780 MW.[8] Kentucky Power projects the capacity associated with the Mitchell Units will no longer be available after the 2027/2028 PJM Planning Year.[9] The Company further assumes that the Big Sandy Natural Gas Plant will retire at the end of the 2030/2031 PJM Planning Year.[10] Additionally, Kentucky Power is "working toward the addition of 100 MW of solar

[3] Integrated Resource Plan Volume A at 23.
[4] Integrated Resource Plan Volume A at 23.
[5] Integrated Resource Plan Volume A at 27.
[6] Integrated Resource Plan Volume A at 27.
[7] Integrated Resource Plan Volume A at 55.
[8] Integrated Resource Plan Volume A at 55.
[9] Integrated Resource Plan Volume A at 55.
[10] Integrated Resource Plan Volume A at 55.

generation," which it projects to be available in 2027.[11] Thus, Kentucky Power faces a need for substantial capacity replacement in 2028 corresponding with the end of its involvement with the Mitchell Coal Units.[12]

B. *The IRP Process*

Electric utilities are required to file an IRP with the Commission every three years.[13] The IRP process requires a utility to consider many factors and formulate a plan to serve its customers with an adequate and reliable electricity for the next fifteen years at the lowest possible cost.[14] Factors to consider, among others, include customer characteristics, service territory, current facilities, forecasted demand, economic and demographic assumptions, resource acquisitions, demand-side management programs, new sources of generation, the state of transmission facilities, bulk power sales and purchases, and interconnections with other utilities.[15]

Kentucky Power filed its 2023 IRP on March 20, 2023. The filing comes after a lengthy pre-filing stakeholder process during which the Attorney General provided Written Feedback on July 29, 2022 and February 1, 2023.[16] The Attorney General's Written Feedback was critical of the Company's proposal from the start. Specifically, the Attorney General criticized the Company's (1) proposed over-reliance on unreliable, out-of-state, intermittent resources, (2) proposed over-reliance on risky market transactions,

[11] Integrated Resource Plan Volume A at 56.
[12] Importantly, the 2028 capacity shortfall may not as large as the Company represents. The assumption that Kentucky Power may need to purchase capacity at the beginning of the PJM planning year beginning June 1, 2028 should be carefully scrutinized. Kentucky Power retains rights to energy and capacity from the Mitchell EGU through the end of 2028. Thus, any purchases for energy or capacity overlapping those procured resources would be wasteful and duplicative, necessitating a corresponding rate adjustment.
[13] KRS 278.230; 807 KAR 5:058.
[14] 807 KAR 5:058(7-8).
[15] 807 KAR 5:058(5).
[16] Copies of this Written Feedback can be found in the record at Response to Joint Intervenor's First Set of Data Requests 1-82 Attachment 2.

(3) failure to adequately consider reliability needs, and (4) failure to adequately consider transmission costs, among other criticisms.

Despite the Attorney General's concerns, the Company has nonetheless adopted a preferred plan that continues to rely heavily on unreliable, out-of-state, intermittent resources, relies heavily on risky market transactions, fails to address reliability concerns, and fails to adequately address transmission costs. Thus, it is clear that Kentucky Power does not agree with the Attorney General's position on these issues.

C. *Kentucky Power's Preferred Plan*

The Company formally selected a proposed plan with the filing of its IRP on March 20, 2023. In the plan, Kentucky Power is proposing to resolve its capacity shortfall by adding the following resources (1) a 480 MW combustion turbine natural gas plant in 2029, (2) 700 MW of new wind in 2026-2031, (3) 800 MW of new solar in 2027-2029, and (4) 50 MW of storage in 2035.[17] The plan further proposes to delay the retirement of the Big Sandy Natural Gas Plant for ten years, extending it through 2041,[18] and to increase reliance on Demand Side Management ("DSM") gradually from 3 MW in 2023 to 46 MW in 2037.[19] Even under this proposed plan, capacity shortfalls still exist. The shortfalls begin in 2023 when the Company proposes market capacity purchases of 73 MW. Under the Company's proposal, the capacity shortfalls will reach a maximum in 2028, when the Company would purchase 407 MW to bridge this gap.

D. *The Request for Proposals*

On September 22, 2023, Kentucky Power issued three "All Source Requests for Proposals" (collectively referred to as "RFPs") for approximately 875 MW of Accredited

[17] Integrated Resource Plan Volume A at 173-174.
[18] Integrated Resource Plan Volume A at 173.
[19] Integrated Resource Plan Volume A at 174.

Summer Capacity and approximately 1,300 MW of Accredited Winter Capacity.[20] The RFPs solicit proposals that may include purchased power from generation produced by wind, solar, coal, and/or natural gas.[21] The RFPs do not require the projects to be located within the Commonwealth. Instead, the projects need only be, "physically located in the PJM Interconnection, LLC Region and interconnected to the PJM Transmission system."[22] Notably, the RFPs solicit wind and solar resources for a twenty-year base term while soliciting coal and natural gas resources for only a seven-to-ten-year term.[23]

III. Discussion

A. Kentucky Power's IRP fails to demonstrate the provision of an adequate and reliable supply of electricity to meet forecasted electricity requirements.

An IRP "shall include the utility's resource assessment and acquisition plan for providing an adequate and reliable supply of electricity to meet forecasted electricity requirements at the lowest possible cost."[24] On its face, Kentucky Power's plan provides neither an adequate, nor reliable, supply of electricity.

1. Kentucky Power's IRP fails to provide for an adequate supply of electricity.

The electricity supply called for in the IRP is inadequate because Kentucky Power, "assumed that each portfolio would need to meet a planning reserve margin of 9% above

[20] *Kentucky Power Issues Request for Proposals for Generation Resources*, https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/Kentucky_Power_Press_Release_All_Source_RFP_Issued-092223.pdf (accessed September 25, 2023).
[21] See *Request for Proposals from Qualified Bidders for Solar Energy Resources and/or Wind Energy Resources* at https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/KPCO_2023_Wind_Solar_PPA_RFP.pdf, *Request for Proposals from Qualified Bidders for New and Existing Thermal Resources* at https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/KPCO_2023_Thermal_RFP.pdf. Additionally, a *Request for Proposals from Qualified Bidders for Battery Storage* at https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/KPCO_2023_Storage_PPA_RFP.pdf.
[22] RFPs at 3.7.
[23] RFPs at 3.3.
[24] 801 KAR 5:058(8)(1).

summer peak load...."[25] This assumption is problematic given that Kentucky Power is a winter-peaking utility. Kentucky Power admits, "[a]ll portfolio builds exhibit capacity shortfall for winter due to the winter peaking nature of the Kentucky Power system."[26] Therefore, Kentucky Power's preferred plan results in a 23.5% reserve margin deficit during the winter.[27] Kentucky Power's plan is to, "meet its load need through membership in PJM[28]" during the winter peaking months.[29]

On its face, Kentucky Power's proposed plan fails at its core requirement, providing adequate and reliable electricity to meet the needs of its customers. Kentucky Power's proposal is to meet its obligation by relying on other utilities, in other states, to generate the needed electricity and provide it to Kentucky ratepayers through market purchases. But a utility's obligation to demonstrate adequate supply is not met by a summary representation of membership in PJM. In Kentucky Power's previous IRP, the Commission confirmed that a utility could not satisfy its state law obligations by relying heavily on market purchases.[30] "Advocating to explicitly not have enough generation to satisfy retail demand, and using the remaining PJM members as a backstop is contrary to FRR construct and Kentucky Power's obligation of service under Kentucky law."[31]

The Commission has no authority over the generation planning of other PJM members, located in other jurisdictions, and limited ability to gauge the resource adequacy of that large market as a whole. Thus, to defer resource adequacy to PJM, or

[25] Integrated Resource Plan Volume A at 166.
[26] Integrated Resource Plan Volume A at 167.
[27] See Integrated Resource Plan Volume A, Application Figure 82.
[28] PJM Interconnection, LLC.
[29] Response to PSC Data Request 1-41.
[30] *Electronic 2019 Integrated resource Planning Report of Kentucky Power Company*, Case No. 2019-00443, Order of June 4, 2021 and Order of June 9, 2021.
[31] *Id*. Order of June 4, 2021 at page 5.

any other RTO, would circumvent the Commission's authority, greatly diminishing its ability to fulfill its statutory oversight obligations of ensuring healthy Kentucky utilities. Instead of increasing reliance on PJM, Kentucky Power should study whether changing market dynamics dictate that ratepayers are better served by avoiding increasingly costly market purchases. The Commission should make clear that a representation of PJM membership, and compliance with PJM requirements, is insufficient resource planning.

Further, vertically integrated utilities have not over-relied on markets traditionally. Kentucky's energy market has not been restructured; utilities are vertically integrated. Vertical integration means a utility is solely responsible for generating, transmitting, and distributing electricity to customers.[32] Utilities take on the obligation to furnish adequate service.[33] In exchange, those utilities are granted exclusive rights to serve a specific geographic territory.[34] Recently, the Commission ordered Kentucky Power to show cause for its failure to provide adequate service within its boundaries.

> Kentucky law requires retail electric suppliers, such as Kentucky Power, to have sufficient capacity to meet maximum estimated customer demand, including sufficient generation capacity. It is clear to the Commission from the records of Case Nos. 2022-00283 and 2023-00145 that Kentucky Power does not have sufficient capacity available to serve customers' energy needs, has been aware of that shortcoming for a significant amount of time, understands the detriment that insufficiency can cause customers, has described the speed and ease by which it could fix that shortcoming, and yet has chosen not to address its inadequacy of service.[35]

The Commission is right to scrutinize whether Kentucky Power's actions are to the detriment of ratepayers. In exchange for its monopoly status, a utility is required to meet

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[32] *Power Market Structure*, https://www.epa.gov/green-power-markets/power-market-structure#:~:text=In%20a%20regulated%20wholesale%20market,distributing%20electricity%20to%20their%20customers (accessed August 28, 2023).
[33] KRS 278.030.
[34] KRS 278.018.
[35] *Electronic Investigation of the Service, Rates, and Facilities of Kentucky Power Company*, Case No. 2021-00370.

the electricity needs of their customers. In general, utilities should meet this obligation head on by generating their own electricity, so that customers are shielded from the worst effects of deteriorating market conditions.

In limited circumstances, the Attorney General has supported reliance on markets. For example, during Kentucky Power's previous IRP, the Attorney General supported narrow utilization of market purchases in distinguishable circumstances.[36] At that time, the Attorney General suggested the Company could displace investment in 52 MW of solar resources by making market purchases at less cost. This is far different from relying on market purchases of up to 407 MW of capacity in 2028 alone. While there is a time and place for market purchases, overreliance on market purchases could have disastrous consequences for Eastern Kentucky ratepayers.

Therefore, Kentucky Power should study the feasibility of entirely meeting the generation needs of its ratepayers by producing that power fully within the Commonwealth. Kentucky Power's planned overreliance on market purchases deserves the Commission's scrutiny and is inconsistent with the core tenant of resource planning—ensuring an adequate supply of electricity is available to serve customers.

2. Kentucky Power's IRP fails to provide a reliable supply of electricity.

i. Intermittent resources do not provide reliable, dispatchable power.

Going forward, Kentucky, the country, and the rest of the world will need more—not less—energy. Every modern technological advance from horse and carriage to automobiles, fans to air conditioning, and computers to cell phones required increased energy production. New technological advances, as well as electrification of

[36] *Electronic 2019 Integrated Resource Planning Report of Kentucky Power Company*, Case No. 2019-00443. See OAG-KIUC Joint Review filed on February 25, 2021 at 9-10.

transportation and space heating, means that this historical trend for the need to generate more electricity year-over-year will continue rather than abate. For over a century, coal-fired electric generation plants have been providing safe, reliable, largely base-load power during all weather conditions, 24 hours-per-day, 365 days-per-year, year-in and year-out. These facilities are capable of sustained output of low-cost energy for prolonged periods, often for months on end. The predictable start-up times and trustworthiness of these dispatchable plants allow utilities and grid operators to meet the needs of the grid and energy markets. Intermittent generation, on the other hand, lacks this reliability, and is subject to the constantly changing weather.[37] Moreover, dispatchable, turbine-driven, synchronous generation resources such as coal-fired plants provide a natural inertia that forces the flow of electrons down the wires. This natural inertia helps to regulate electric frequency and retard its decay, keeping it at or near 60 Hz, and produces short circuit strength that provides ride-through capability for intermittent or sustained oscillations.

Electrons traveling on the grid move in accordance with well-defined principles of physics and engineering—they do not do so in response to politics or wishful thinking. Dispatchable thermal resources such as coal-fired plants can also be utilized on the grid as spinning reserves, to quickly provide voltage support, ramping and additional frequency regulation.[38] Intermittent generation resources such as wind and solar lack

[37] "The lessons of the recent decade make it clear that [renewable] technologies cannot be surged in times of need, are neither inherently "clean" nor even independent of hydrocarbons, and are not cheap." *The Energy Transition Delusion: A Reality Reset*, https://media4.manhattan-institute.org/sites/default/files/the-energy-transition-delusion_a-reality-reset.pdf, (accessed September 27, 2023).

[38] *See*, Interim Joint Committee on Natural Resources and Energy Hearing August 3, 2023, testimony of PJM Vice-President for State and Member Services Asim Haque, YouTube video accessible at https://www.youtube.com/watch?v=Bja3IDPFPMs at 22:07–25:30 (last accessed August 15, 2023).

the ability to meet increased demand, without adding ultra-expensive storage.[39] The realities of physics, engineering and economics—which are not dependent upon any facts or beliefs about climate change—mean that there is not currently, nor will there be in the foreseeable future, any commercially viable intermittent generation at scale to fully power Kentucky's or the nation's electric grid. And despite the inaccurately named Inflation Reduction Act, there is currently no clear path forward to a viable electric grid run solely on intermittent resources. Thermal generation—coal, natural gas and nuclear—are necessary today, tomorrow and will continue to be well into the future.[40]

As East Kentucky Power Cooperative CEO Anthony "Tony" Campbell noted in a letter to President Biden concerning grid reliability, "The emerging picture is of an electric grid that is steadily becoming less fuel secure . . ."[41] American Electric Power, in a letter to congressional offices, stated that the Clean Electricity Performance Program

[39] ". . . [G]rid-scale electric availability has been made possible by using electricity-producing machines (turbines) that can be turned on when needed, fueled by large quantities of primary energy sources (such as natural gas, coal, and flowing water) that are easily and inexpensively stored. Such metrics characterize, for now, more than 80% of U.S. electricity production and more than 90% of transportation. The U.S., on average, has about one to two months' worth of national demand in storage for each kind of hydrocarbon. Such enormous quantities are possible because it costs less than $1 a barrel per month to store oil or the energy equivalent of natural gas. Storing coal is even cheaper. Thus, over the past century, engineers achieved the feat of building a nation spanning group of electricity grids that powers nearly everything, anytime, while still consuming less than 3% of the GDP. . .. Even though wind/solar machines don't have fuel costs and have lower maintenance costs than combustion machines, grid-scale battery costs would have to drop at least 20-fold to match the reliability economics of conventional dispatchable power." "*The Energy Transition Delusion: A Reality Reset*," *supra* at 6 [citations omitted]. As the International Energy Agency notes, "[t]he transition to clean energy means a shift from a fuel-intensive to a material-intensive energy system," IEA World Energy Outlook Special Report, "The Role of Critical Minerals in Clean Energy Transitions," May 2021 (pp. 28, 104). This transition to a material-intensive energy system will require increasing the supply chain of minerals such as lithium, graphite, nickel, and rare earths by 4,200%, 2,500%, 1,900%, and 700%, respectively, by 2040. "The "Energy Transition" Delusion: A Reality Reset," *supra*.

[40] The Attorney General acknowledges that at some point in the future, some sort of breakthrough technology may be developed to enable this transformation. But until then, the grid will continue expanding and will require a continuous, sustained flow of electrons to power the electric gird.

[41] EKPC President & CEO Anthony "Tony" Campbell Letter to President Biden, July 13, 2021, https://togetherwesaveky.com/wp-content/uploads/2022/07/2021-07-13_TCampbell-to-President-Biden.pdf (accessed September 27, 2023).

would, "adversely impact reliability and resilience of the electric grid."[42] Kentuckians do not want—or need—a grid like California's, "that is over-reliant on intermittent energy resources, voluntary service curtailments and imports from other regions."[43] Those states that are transitioning their grid away from time-proven, fossil-fueled generation to more intermittent and less-reliable resources know that their energy bills will become less affordable over time;[44] in fact, some are having second thoughts about their prior decisions to jettison fossil-fueled generation plants.[45] It is imperative that the Commission take every measure to maintain and strengthen the reliability and resilience of Kentucky's electric grid.

The Attorney General has consistently and repeatedly voiced concerns related to the reliability impacts of the increased penetration of intermittent resources in numerous Commission proceedings.[46] For example, the Attorney General spoke at

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[42] *Major utility questions Biden's signature climate plan*, https://www.eenews.net/articles/major-utility-questions-bidens-signature-climate-plan/ (last accessed September 4, 2023).

[43] EKPC President & CEO Anthony "Tony" Campbell Letter to President Biden, July 13, 2021, https://togetherwesaveky.com/wp-content/uploads/2022/07/2021-07-13_TCampbell-to-President-Biden.pdf (accessed September 27, 2023).

[44] *See, e.g., California's Dilemma: How to Control Skyrocketing Electric Rates While Building the Grid of the Future*, https://www.utilitydive.com/news/californias-dilemma-how-to-control-skyrocketing-electric-rates-while-buil/597767/ (accessed September 5, 2023).

[45] *See, e.g., Newsom Embraces Dirty Energy in Bid to Stave off Blackouts*, https://www.politico.com/news/2023/08/30/Newsom-aliso-canyon-dirty-energy-blackouts-00113534 (accessed September 8, 2023).

[46] *See, Electronic 2020 Integrated Resource Plan Of Big Rivers Electric Corporation*, Case No. 2020-00299; *Electronic 2021 Integrated Resource Plan Of Duke Energy Kentucky, Inc.*, Case No. 2021-00245; *Electronic Joint Application Of American Electric Power Company, Inc., Kentucky Power Company And Liberty Utilities Co. For Approval Of The Transfer Of Ownership And Control Of Kentucky Power Company*, Case No. 2021-00481; *Electronic 2021 Joint Integrated Resource Plan Of Louisville Gas And Electric Company And Kentucky Utilities Company*, Case No. 2021-00393; *Electronic 2022 Integrated Resource Plan Of East Kentucky Power Cooperative, Inc.*, Case No. 2022-00098; *Investigation of the Fuel Adjustment Clause Regulation 807 KAR 5:056, Purchased Power Costs, and Related Cost Recovery Mechanisms*, Case No. 2022-00190; *Electronic Application Of Big Rivers Electric Corporation For Approval Of Amendment To Power Purchase Agreement*, Case No. 2022-00296; and *Electronic Application Of Duke Energy Kentucky, Inc. For (1) An Adjustment Of Electric Rates; (2) Approval Of New Tariffs; (3) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities; And (4) All Other Required Approvals And Relief*, Case No. 2022-00372.

length about the importance of dispatchable thermal resources and the "looming reliability crisis" in the Commission's proceedings on Louisville Gas and Electric Company and Kentucky Utilities' request to retire and replace certain fossil fuel resources.[47] And in Kentucky Power's last IRP case, the Attorney General and KIUC specifically highlighted this issue.

> Given the increasing reliance that Kentucky Power, and indeed all electric utilities are placing on intermittent renewable energy resources, AG/KIUC are concerned that an over-reliance on renewable resources could create unreasonable risks to the reliability of Kentucky's electric grid, and those risks may require additional mitigation measures that will increase costs, including the pairing of battery energy storage with the renewable resources. The Commission should take administrative notice of the multiple instances of reliability risks encountered in an increasing number of states, including blackout incidents within the past year in California, Texas, Oklahoma, and other states. These incidents highlight the concern of having a significant dependence on renewable energy resources such as Kentucky Power's IRP proposes. Renewable energy resources are by nature intermittent, especially so during winter months, a fact that is all the more important to winter peaking utilities such as Kentucky Power.[48]

Despite these warnings, Kentucky Power now proposes to double down on its transition to intermittent resources, proposing to increase its solar generation by 75% and its wind generation by 250% from its 2019 proposal.[49]

Kentucky Power proposes to install 800 MW of solar generation. Solar generation however, does not possess the efficient operating characteristics offered by traditional dispatchable resources. Drawbacks to utility scale solar generation include operability

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[47] *Electronic Joint Application of Kentucky Utilities Company and Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Site Compatibility Certificates and Approval of a Demand Side Management Plan and Approval of Fossil Fuel-Fired Generating Unit Retirements*, Case No. 2022-00402, Attorney General's Post-Hearing Brief of September 22, 2023.

[48] *Electronic 2019 Integrated Resource Planning Report of Kentucky Power Company*, Case No. 2019-00443. See OAG-KIUC Joint Review filed on February 25, 2021 at 13-14.

[49] *Electronic 2019 Integrated Resource Planning Report of Kentucky Power Company*, Case No. 2019-00443. See OAG-KIUC Joint Review filed on February 25, 2021 at 6. In the 2019, Kentucky Power proposed 455 MW of nameplate solar capacity and 200 MW of wind capacity respectively.

limited to only when the sun is shining,[50] the potential for extensive damage and outages during weather events, such as hail, [51] a limited lifespan,[52] displacement of agricultural use of valuable farmland,[53] and uncertainty regarding environmental issues at the time of disposal.[54] Beyond these basic drawbacks, Kentucky Power acknowledges that solar generation will not show up when Kentucky Power faces its biggest need, during the winter.[55] It makes little sense for Kentucky Power to make substantial investments in generation sources that simply do not meet the specific needs of its load as a winter-peaking utility.

Additionally, Kentucky Power proposes to install 700 MW of new wind resources by 2037. Wind generation, like solar generation, also does not possess the efficient operating characteristics offered by traditional dispatchable resources. Drawbacks to utility scale wind generation include, high variability based on weather conditions,[56] adverse impacts to local wildlife, including death by impacts and habitat loss,[57] noise

[50] *The Advantages and Disadvantages of Solar Energy*, https://www.constellation.com/energy-101/energy-innovation/solar-energy-pros-and-cons.html (accessed September 6, 2023). On average, Kentucky experiences about 4.94 peak sun hours per day. *Average Peak Sun Hours By State*, https://thegreenwatt.com/average-peak-sun-hours-by-state/ (accessed September 6, 2023).
[51] *Nebraska solar farm crippled by hail, underscoring power source's fragility*, https://www.foxnews.com/politics/nebraska-solar-farm-crippled-hail-underscoring-power-sources-fragility (access June 29, 2023).
[52] *Challenge to stop solar panels becoming a 'waste mountain'*, https://www.bbc.com/news/science-environment-65602519 (accessed September 7, 2023).
[53] *The promise of solar farm income and why it's not winning everyone's heart*, https://www.cincinnati.com/in-depth/news/2021/09/16/invitation-solar-farm-not-sitting-well-rural-neighbors-kentucky/5649016001/ (accessed September 7, 2023).
[54] *Challenge to stop solar panels becoming a 'waste mountain'*, https://www.bbc.com/news/science-environment-65602519 (accessed September 7, 2023).
[55] See Response to PSC Data Request 1-49. "Solar output" is "largely not available during peak winter hours[.]"
[56] *Atmospheric Science for Renewable Energy Challenges*, https://www.esrl.noaa.gov/gsd/renewable/challenges.html (accessed September 7, 2023).
[57] *Can wind turbines harm wildlife?* , https://www.usgs.gov/faqs/can-wind-turbines-harm-wildlife#:~:text=A%20key%20challenge%20facing%20the,and%20reduced%20survival%20or%20reproduction (accessed September 7, 2023.

pollution,[58] and waste issues related to the non-recyclable nature of turbine blades.[59] Perhaps most importantly here, Kentucky simply does not possess the physical characteristics necessary to support wind generation.[60] Thus, any generation procured from wind resources will be required to be wheeled in from distant locations within the PJM footprint at substantial transmission cost. In 2019, the Attorney General urged the Commission to view Kentucky Power's proposal to add 200 MW of nameplate wind generation "with extreme caution."[61] Kentucky Power's new proposal to add 250% more wind should be reviewed with even greater caution.

Energy generation needs to be consistent and predictable.[62] The Chief Operating Officer of the Southwest Power Pool ("SPP") recently highlighted the fragility of a system reliant on wind and solar energy. If not for backup fossil fuel generation, blackouts would have been required on a "highly unusual, highly unexpected" recent June day where wind only produced .4% of its potential generation.[63] Thus, even when utilities choose to utilize intermittent generation, tremendous amounts of dispatchable backup power are required at potentially great expense. This need for dispatchable backup power, to stand alongside

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[58] *Wind Turbine Noise & Human Health: A Review of the Scientific Literature*, https://docs.wind-watch.org/VtDH_wind_turbine_noise_May_2017.pdf, (accessed September 7, 2023)

[59] *Wind energy has a massive waste problem. New technologies may be a step closer to solving it*, https://www.cnn.com/2023/05/28/world/wind-turbine-recycling-climate-intl/index.html (accessed September 7, 2023).

[60] *Wind Energy in Kentucky*, https://eec.ky.gov/Energy/Documents/Wind%20Energy.pdf, (accessed August 28, 2023). "In general, Kentucky has low wind speeds and, therefore, limited wind energy potential."

[61] *Electronic 2019 Integrated Resource Planning Report of Kentucky Power Company*, Case No. 2019-00443. See OAG-KIUC Joint Review filed on February 25, 2021 at 11.

[62] *Atmospheric Science for Renewable Energy Challenges*, https://www.esrl.noaa.gov/gsd/renewable/challenges.html (accessed September 7, 2023). A "stable electric grid" requires "a constant balance between energy supply and energy demand."

[63] *Electricity providers beg Biden not to shutter power plants in the name of climate change*, Energy Central News, https://energycentral.com/news/electricity-providers-beg-biden-not-shutter-power-plants-name-climate-change?utm_medium=eNL&utm_campaign=D%E2%80%A6, (accessed September 1, 2023).

intermittent generation, demonstrates the high potential for wasteful duplication of service.

ii. Energy and capacity markets are increasingly volatile due to increased penetration of unreliable intermittent resources.

The unreliable nature of intermittent resources is affecting energy markets as a whole. Energy markets are increasingly volatile as unreliable renewables penetrate those markets and reliable, dispatchable resources are retired. Members of the Federal Energy Regulatory Commission ("FERC") recently told Congress as much. Commissioner James Danly told the House Energy and Commerce Subcommittee on Energy, Climate and Grid Security, "[t]he United States is heading towards a reliability crisis in our electric markets," caused in part by 'the effect of subsidies' for intermittent renewable resources."[64] Commissioner Mark Christie agreed. "I think we're headed toward potentially very dire, potentially catastrophic consequences in the United States," Christie said. "The basic reason is we're facing a shortfall of power supply. ... The problem is not the addition of wind and solar. The problem is the subtraction of coal and gas and other dispatchable resources."[65]

The FERC Commissioners articulated similar concerns to the Senate. In a May 4, 2023 hearing held by the United States Senate Committee on Energy and Natural Resources, Commissioner Danly, Commissioner Christie, and other FERC Commissioners provided testimony regarding grid reliability. FERC Chairman Willie Phillips stated that he was extremely concerned about the pace of power plant

[64] *FERC's Danly, Christie Again Warn Congress of Looming Reliability Crisis*, https://www.rtoinsider.com/32379-danly-christie-warn-congress-looming-reliability-crisis/#:~:text=FERC's%20Danly%2C%20Christie%20Again%20Warn,Looming%20Reliability%20Crisis%20%2D%20RTO%20Insider&text=FERC's%20two%20Republican%20commissioners%20told,dispatchable%20fossil%20fuel%2Dfired%20generators (accessed August 28, 2023).
[65] *Id.*

retirements, and noted, "[w]e face unprecedented challenges to the reliability of our nation's electric system."[66]

Commissioner Christie noted similar concerns:

> [T]he United States is heading for a reliability crisis. . . . Dispatchable generating resources are retiring far too quickly and in quantities that threaten our ability to keep the lights on. The problem generally is not the addition of intermittent resources, primarily wind and solar, but the far too rapid subtraction of dispatchable resources, especially coal and gas. . . . In terms of capacity value – which is the amount of power that can be supplied to the grid when needed – one nameplate megawatt of wind or solar is simply not equal to one nameplate megawatt of gas, coal or nuclear. So even if every unit waiting in the PJM interconnection queue was interconnected, that would not solve the reliability problem caused by too-rapid loss of dispatchable generation. The numbers just do not balance. So the red lights are flashing . . . . [67]

Commissioner Danly also shared similar concerns:

> As an engineering matter, there is no substitute for reliable, dispatchable generation. Intermittent renewable resources like wind and solar are simply incapable, by themselves, of ensuring the stability of the bulk electric system. As the wholesale markets' prices are distorted by subsidies, the generation assets with the attributes required for system stability will retire and system stability will be imperiled. Given these market failures, there will be, in time, a catastrophic reliability event. None of us wants this to happen, and I fervently hope to be proven wrong. . . . [68]

Commissioner Christie continues to sound this alarm to all policy-makers who will listen. He recently authored a letter to a United States Senator where he expounded:

> The United States is already facing potentially catastrophic consequences from the premature retirements of dispatchable generating resources at an unsustainable pace. When the supply of power is contracting due to premature retirements of dispatchable resources while the demand for

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[66] *FERC Commissioners Tell Senators Of Major Grid Reliability Challenges, With Some Blaming Markets*, https://www.utilitydive.com/news/ferc-grid-reliability-senate-energy-hearing/649523/ (accessed August 9, 2023).

[67] *Id*. *See also,* Opening Statement of FERC Comm'r Christie, U.S. Senate Energy and Natural Resources Committee, May 4, 2023, accessible at: https://www.energy.senate.gov/services/files/1D618EDD-7CED-4BC5-8F09-C8F0668FE608 (last accessed Aug. 9, 2023); and "2 FERC Members Flag Grid Reliability Concerns During US Senate Committee Hearing," *S&P Global Market Intelligence*, May 4, 2023.

[68] Written Testimony of FERC Commissioner James P. Danly before the U.S. Senate Committee on Energy & Natural Resources, May 4, 2023, https://www.energy.senate.gov/services/files/0A896B12-2895-4F68-A367-74009F2975C4 (accessed August 9, 2023).

power is quadrupling, it does not take a doctorate in statistics to see that the numbers just don't add up.[69]

But make no mistake, FERC Commissioners are not the only ones sounding this alarm. Even the RTO to which Kentucky Power belongs has directly alerted Kentucky policymakers of impending energy shortages. PJM Interconnection, L.L.C's ("PJM") Vice President for State and Member Services Asim Haque recently told Kentucky's Interim Joint Committee on Natural Resources and Energy that, PJM is, "concerned about being in a supply crunch by the end of this decade."[70] Haque also warned:

- "We can't simply shut down thermal resources and replace them with non-thermal resources."[71]

- "We will need thermal resources until those resources can be replaced at scale. And we don't see that technology being integrated into the system, certainly not tomorrow. And so we will continue to need our thermal resources";[72]

- "We are going to need thermal resources in order to preserve reliability until replacement tech exists to deploy at scale";[73]

- ". . . [C]urrently we have 48 gigs [GW] that . . .are waiting to construct, but we are not seeing steel in the ground. ... [A] variable that we just don't know enough about yet is how much of this generation that is in the queue and finds their way through the queue, how much of this generation is actually going to get built? And we don't have that answer right now. Last year, it's a pretty pitiful two gigs. And 1,300 of it was a natural gas plant in Ohio. 700 of it was renewable";[74]

- "There are a lot of watts in the queue that are some combination of solar, wind, battery resource, and we hope they get built because we need the watts. But as we sit here today, they're not getting built."[75]

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[69] Letter of August 29, 2023 of Federal Energy Regulatory Commissioner Mark Christie to U.S Senator John Barrasso.
[70] Interim Joint Committee on Natural Resources and Energy Hearing August 3, 2023, YouTube video at 13:2513:33, available at https://www.youtube.com/watch?v=Bja3IDPFPMs (accessed August 16, 2023).
[71] *Id*. at 24:50-25:15.
[72] *Id*. at 1:12:10-1:12:36.
[73] *Id*. at 1:26:53-1:27:00.
[74] *Id*. at 1:19:57-1:22:14.
[75] *Id*. at 1:36:35-1:36:51.

PJM is not limiting its warnings to Kentucky. It has made similar representations at the federal level. PJM's President and CEO, Manu Asthana, in recent testimony before the United States Senate, stated:

> . . . the generation fueled by fossil fuels (mostly coal and natural gas) that we rely upon to balance the grid is retiring at a significant rate. Electrification of the transportation, industrial and building sectors is poised to create material load growth. Our region is also experiencing significant data center construction, which is creating major pockets on the system of increasing demand. New generation in the queue is largely intermittent, so we need multiple megawatts to replace one megawatt of retiring generation. And, new generation is coming online slower than anticipated. If these trends continue, our models show increased risk of having insufficient resources later in this decade to maintain the reliable electric service that consumers expect. . . . Industry and policymakers can take steps now to de-risk the transition [to use of intermittent generation] includ[ing] policies that slow down the retirement or restriction of existing generation until replacement generation is deployed and operational at scale.[76]

PJM has *strongly* cautioned that approximately 40 GW of generation, representing 21% of the RTO's current installed capacity, is at heightened risk of retirement over the next 6 years, posing a major reliability risk:

> Thermal generators are retiring at a rapid pace due to government and private sector policies as well as economics. Retirements are at risk of outpacing the construction of new resources, due to a combination of industry forces, including siting and supply chain, whose long-term impacts are not fully known. PJM's interconnection queue is composed primarily of intermittent and limited-duration resources. . . . Despite the sizable nameplate capacity of renewables in the interconnection queue (290 GW), the historical rate of completion for renewable projects has been approximately 5%. The projections in this study indicate that the current

[76] U.S. Senate Committee on Energy & Natural Resources, Testimony of Manu Asthana, President and CEO, PJM Interconnection, June 1, 2023. The Commission should also take notice that the other RTO serving the Commonwealth, the Midcontinent Independent System Operator ("MISO") is facing an even larger capacity shortfall. *See, e.g., MISO: 49 GW Has Received Interconnection Approval, but Projects Face Major Delays*, https://www.utilitydive.com/news/midcontinent-miso-interconnection-queue-supply-chain-transmission-expansion-mtep/693652/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202023-09-14%20Utility%20Dive%20Newsletter%20%5Bissue:54508%5D&utm_term=Utility%20Dive (accessed Sept. 18, 2023).

> pace of new entry would be insufficient to keep up with expected retirements and demand growth by 2030. [77]

The message from PJM could not be clearer: PJM requires *more* dispatchable thermal generation resources to replace those that are retiring, and non-dispatchable intermittent resources *will not* fill the void. PJM's Independent Market Monitor ("IMM"") agrees. Speaking before FERC's Forum on PJM Capacity Performance on June 15, 2023, the IMM said there is no commercially viable replacement right now and no clear path forward for replacing the coal and gas that PJM relied on during Winter Storm Elliott.[78]

On June 1, 2023, the President and CEO of the North American Electric Reliability Corp. ("NERC"), James B. Robb testified before the United States Senate Committee on Energy and Natural Resources regarding the reliability and resiliency of the U.S. Bulk Power System. Mr. Robb noted:

> [The] Bulk power system reliability is at an inflection point. NERC assessments demonstrate that the electric grid is operating ever closer to the edge where reliability is at risk — an edge characterized by the prospect of more frequent and more serious disruptions that threaten human wellbeing and economic productivity. To be clear, NERC believes that the energy transformation can be navigated in a reliable way. To do so, reliability must be anchored as our north star guiding the journey. . .. [79]

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[77] *Energy Transition in PJM: Resource Retirements, Replacements & Risks*, https://www.pjm.com/-/media/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx, at 1-2, 5, (accessed September 27, 2023).

[78] *See* FERC video hearing transcript from PJM Capacity Market Forum, Docket No. AD23-7-000, June 15, 2023; Commissioner Christie's question starting at 2:46:25, Joe Bowring's answer starting at 2:51:54, available at https://www.ferc.gov/news-events/events/pjm-capacity-market-forum-06152023 (last accessed September 5, 2023).

[79] *The Reliability and Resiliency of Electric Service in the U.S. in Light of Recent Reliability Assessments and Alerts*, Testimony of James B. Robb, before the Committee on Energy and Natural Resources U.S. Senate, June 1, 2023, https://www.energy.senate.gov/services/files/D47C2B83-A0A7-4E0B-ABF2-9574D9990C11 (accessed August 9, 2023).

The reliability crisis now at our front door did not come as a surprise—indeed, it was foreseen for at least the past several years.[80] Although this crisis likely will get worse before it gets better, the Commission and all stakeholders must agree that it goes no further—it simply *must* stop at the Commonwealth's border. It is unacceptable, and we must act together to ensure Kentucky's grid remains reliable in the face of the destabilizing forces affecting other jurisdictions.

iii. The proliferation of expensive, heavily-subsidized intermittent resources is driving price increases for ratepayers and distorting price signals within energy markets.

If the operational drawbacks of reliance on intermittent resources were not enough, they are expensive to boot. Within the past few years, intermittent resources started becoming more cost-competitive for two reasons: heavy subsidization,[81] and to date, a lack of onerous up-front environmental compliance costs such as the EPA has placed on fossil fuel generation.[82] However, that trend has not only halted, but is actually

[80] *See, e.g., Reliability in PJM: Today and Tomorrow*, March 11, 2021, https://pjm.com/-/media/library/reports-notices/special-reports/2021/20210311-reliability-in-pjm-today-and-tomorrow.ashx; *Energy Transition in PJM: Frameworks and Analysis*, Dec. 15, 2021, https://pjm.com/-/media/committees-groups/committees/mrc/2021/20211215/20211215-item-09-energy-transition-in-pjm-whitepaper.ashx; *Get Ready for the Blackouts*, *Wall St. Journal Op-Ed*, Sept. 7, 2021 https://www.wsj.com/articles/blackouts-generac-electric-grid-texas-california-biden-decarbonize-renewables-climate-11631043410 (accessed September 27, 2023).

[81] *What Does 'Made in America' Mean? In Green Energy, Billions Hinge on the Answer*, https://www.wsj.com/articles/what-does-made-in-america-mean-in-green-energy-billions-hinge-on-the-answer-6e2471c5 (accessed Sept. 5, 2023); Industrial Policy Follies: Solar-Power Edition, https://www.wsj.com/articles/solar-imports-tariffs-southeast-asia-commerce-department-biden-administration-54cdfbd6 (accessed August 28, 2023).

[82] The Attorney General believes that the Commission should nonetheless take careful notice that renewable resources' supply chains will doubtlessly soon face entirely new classes of environmental compliance costs that government subsidies cannot mitigate, and will force massive price increases up the chain to consumers and all end users. *See, e.g., Reality Check for the EV Battery Push*, https://www.powermag.com/blog/reality-check-for-the-ev-battery-push/?oly_enc_id=1450G8988423D3P (accessed September 5, 2023); *The Role of Critical Minerals in Clean Energy Transitions*, https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions, *It's Not Just Mining. Refining Holds U.S. Back on Minerals*, https://www.eenews.net/articles/its-not-just-mining-refining-holds-u-s-back-on-minerals/?utm_source=Energy+News+Network+daily+email+digests&utm_campaign=a713c6b0b5-

starting to reverse itself: after years of cost declines, the price of solar and wind resources is now increasing.[83] The increasing costs have made many projects "economically unviable."[84] As New Yorkers can attest, the abrupt transition to solar and wind generation is driving large rate increases for ratepayers.[85] Realizing the burden coming to ratepayers, several northeast governors recently wrote President Biden seeking even more subsidies for offshore wind development.[86]

Increasingly, evidence is mounting that utilities with a high percentage of intermittent resources either have, or will have, higher costs. For example, "[t]he European Union, which gets 17% of its electricity from solar and wind—the highest percentage in the world—also has some of the highest consumer electricity costs."[87] In fact, popular narratives surrounding the energy transition conveniently overlook substantive facts:

> Claims that wind, solar, and EVs have reached cost parity with traditional energy sources or modes of transportation are not based on evidence. Even before the latest period of rising energy prices, Germany and Britain—both further down the grid transition path than the U.S.— have seen average electricity rates rise 60%–110% over the past two decades.[88] The same

EMAIL_CAMPAIGN_2020_05_11_11_46_COPY_01&utm_medium=email&utm_term=0_724b1f01f5-a713c6b0b5-89280531 (accessed September 27, 2023).

[83] *Green Power Gets Pricier After Years of Declines*, https://www.wsj.com/articles/green-power-gets-pricier-after-years-of-declines-87d71d5f (accessed August 14, 2023).

[84] *Orsted's $2.3 Billion Charge Exposes US Offshore Wind Woes*, https://www.energyconnects.com/news/renewables/2023/august/orsted-s-2-3-billion-charge-exposes-us-offshore-wind-woes/ (accessed September 6, 2023).

[85] *States have big hopes for renewable energy. Get ready to pay for it*, https://www.politico.com/news/2023/08/22/new-york-renewable-energy-cost-00112126?utm_medium=email (accessed August 24, 2023).

[86] *The Great Northeast Wind Bailout* WSJ Editorial Board September 21, 2023 https://www.wsj.com/articles/governors-wind-project-bailout-joe-biden-orsted-b6559721 (accessed September 29, 2023)

[87] *See, e.g., Want to Lock Down the Climate?*: https://www.wsj.com/articles/covid-lockdown-climate-fossil-fuels-electricity-energy-production-africa-carbon-emission-11632943155 (accessed Sept. 3, 2023).

[88] *Germany Pours Cold Water on EU's Clean Energy Ambitions*, https://www.euractiv.com/section/energy/news/germany-pours-cold-water-on-eus-clean-energy-ambitions/ (accessed September 27, 2023).

> pattern is visible in Australia and Canada.[89] It's also apparent in U.S. states and regions where mandates have resulted in grids with a higher share of wind/solar energy. In general, overall U.S. residential electricity costs rose over the past 20 years.[90] But those rates should have declined because of the collapse in the cost of natural gas and coal—the two energy sources that, together, supplied nearly 70% of electricity in that period.[91] Instead, rates have been pushed higher thanks to elevated spending on the otherwise unneeded infrastructure required to transmit wind/solar-generated electricity, as well as the increased costs to keep lights on during "droughts" of wind and sun that come from also keeping conventional power plants available (like having an extra, fully fueled car parked and ready to go) in effect by spending on two grids. None of the above accounts for the costs hidden as taxpayer-funded subsidies that were intended to make alternative energy cheaper. Added up over the past two decades, the cumulative subsidies across the world for biofuels, wind, and solar approach about $5 trillion,[92] all of that to supply roughly 5% of global energy.[93]

Moreover, virtually all stakeholders and experts, including rating agencies,[94] agree that extensive penetrations of intermittent resources will require larger—and far more expensive—reserve margins on a year-round basis.[95] While these major cost escalations

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[89] *Electricity Prices Fell for Forty Years in Australia, Then Renewables Came*, https://joannenova.com.au/2018/02/electricity-prices-fell-for-forty-years-in-australia-then-renewables-came/ (accessed September 27, 2023).

[90] During 2021, U.S. Retail Electricity Prices Rose at Fastest Rate Since 2008, https://www.eia.gov/todayinenergy/detail.php?id=51438#:~:text=In%202021%2C%20the%20average%20nominal,our%20latest%20Electric%20Power%20Monthly (accessed September 27, 2023).

[91] EIA, Electric Power Monthly, "Table 1.1. Net Generation by Energy Source: Total (All Sectors), 2012–April 2022."

[92] *Global Investment in Low-Carbon Energy Transition Hit $755 Billion in 2021*, https://about.bnef.com/blog/global-investment-in-low-carbon-energy-transition-hit-755-billion-in-2021/ (accessed September 27, 2023).

[93] *The Energy Transition Delusion: A Reality Reset*, *supra*, at 5-6.

[94] *Moody's Warns of Potential Power Price Volatility from Renewables Oversupply*, ("'Because wind and solar power generation depends on weather conditions and is thus not dispatchable, load-serving utilities will likely build in a cushion of supply to enhance reliability and compensate for resource volatility,' the report says."), https://www.utilitydive.com/news/moodys-utility-renewables-oversupply-price-grid/693714/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202023-09-14%20Utility%20Dive%20Renewable%20Energy%20%5Bissue:54513%5D&utm_term=Utility%20Dive:%20Renewable%20Energy (accessed September 14, 2023).

[95] "Because of the declining reliability value of renewable resources, the percent nameplate above peak load would increase under each progressive scenario. In the Accelerated scenario, an additional 78% nameplate capacity on top of the forecasted peak load was required to satisfy the 1-in-10 year LOLE [Loss of Load Expectation]." *Energy Transition in PJM: Frameworks for Analysis*, https://pjm.com/-/media/committees-groups/committees/mrc/2021/20211215/20211215-item-09-energy-transition-in-pjm-whitepaper.ashx; *see also*, *IPPs See Danger in Swift Move from Gas and Coal*, https://www.rtoinsider.com/29241-ipps-see-danger-swift-move-from-gas-coal/#/ (accessed September 3, 2023).

are of little concern for some intermittent energy advocates, they should be at the forefront of this Commission's attention.

The Commission need not look beyond the Commonwealth's borders to find a prime example. As the Commission is aware, a Kentucky utility has been forced to renegotiate power purchase agreements with solar developers who demanded price increases of more than 28% not more than two years after the initial agreements were approved.[96] In other states and in Europe, wind developers are scrapping contracts due to rising prices and logistical issues.[97] This self-inflicted volatility harms the ratepayers most of all.

Any cost-benefit analysis that compares the cost of intermittent generation to the cost of traditional, dispatchable generation is inherently complicated, due to the distinct operational limitations of intermittent resources. One MW of nameplate capacity from an intermittent resource is entirely different than one MW of nameplate capacity from a traditional, dispatchable resource. The latter is capable of producing on demand. The former is not. Therefore, those resources are not of comparable value. In an attempt to make these values comparable, concepts such as Effective Load Carrying Capability have been formulated. But continual evolution of RTO market rules suggest that these tools are not striking the appropriate balance; the right price signals are not being sent to incentivize the construction of needed resources.

[96] *Electronic Application of Big Rivers Electric Corporation for approval of Amendment to Power Purchase Agreement*, Case No. 2022-00296.
[97] *Wind Industry in Crisis as Problems Mount, https://www.wsj.com/articles/wind-industry-hits-rough-seas-as-problems-mount-5490403a,* (accessed September 27, 2023).

Further, the handsome subsidies levied on intermittent resources are distorting market pricing signals. As Commissioner Danly noted in a letter to Members of the U.S. House of Representative, these market distortions affect resource adequacy:

> Since price signals are the only method of ensuring that sufficient generation is built or retained, if the price signals are distorted by external, price-suppressing subsidies, the capacity markets will be unable to send the accurate price signals needed to create incentives for a large enough quantity of new capacity to meet system demands. When, even worse, the external subsidies are designed to favor a particular category of resources (such as wind and solar) which do not have the reliability attributes necessary to ensure long-term system stability, the inevitable consequence is that the subsidized renewables will drive the unsubsidized, dispatchable generation into insolvency. Over time, this creates capacity shortfalls and deprives the electric system of the attributes needed to keep the lights on.
>
> Although FERC has historically ensured that such out-of-market subsidies would be unable to skew price signals through various market protection mechanisms like the Minimum Offer Price Rule, in the last two years we have abandoned our longstanding commitment to ensuring proper price formation and have allowed the markets to subject their auctions to the price-warping effects of subsidies. Although we have yet to see the full effects of these policy decisions, they will inevitably have real-world consequences as the markets experience ever greater scarcity and are unable to attract the investment in the generation assets required to ensure that the electric system remains stable. Reliability failures will ultimately result, which is why FERC must act now to ensure the integrity of our markets by protecting them from the effects of subsidies.[98]

As Kentucky Power plans the future of its system, it should carefully consider the operating limitations of intermittent resources, the escalating costs associated with those resources, and the distorting effects intermittent resources are currently having on RTO markets.

iv. Kentucky policy explicitly favors dispatchable resources, not intermittent ones.

Public policy for the Commonwealth is made by Kentucky's General Assembly.[99]

[98] Letter from Commissioner James Danly to Members of the U.S. House of Representatives, June 1, 2023.
[99] *Cameron v. Beshear*, 628 S.W.3d 61, 73 (Ky. 2021).

Kentucky's General Assembly has made it clear that it favors dispatchable resources, not ones that merely produce intermittently. The General Assembly's recent passage of Senate Bill 4 ("SB 4"),[100] which requires Commission approval of certain utility retirements and replacements, codifies an unmistakeable policy preference for dispatchable resources.[101] SB 4 creates a rebuttable presumption against the retirement of fossil fuel-fired electric generating units unless a showing is made that, among other things, the retired generating unit will be replaced by dispatchable generation and reliability will be maintained.[102]

In general, Kentucky Power proposes to meet its generation needs by continuing to operate the Big Sandy Gas Plant through 2041 (295 MW), by building a new gas CT in 2029 (480 MW), and by constructing 1,500 MW of non-dispatchable, intermittent, wind and solar resources. Kentucky Power's proposal to meet a large share of its capacity and energy needs based on non-dispatchable, intermittent resources runs counter to the intent of SB 4 and is contrary to policy in the Commonwealth.

Kentucky Power currently has 1,075 MW of dispatchable generation.[103] But Kentucky Power plans to have only 331 MW of dispatchable generation as of 2028, after the conclusion of the joint ownership and operating agreement for the Mitchell coal plant.[104] Thereafter, a new 480 MW gas CT would be constructed,[105] causing dispatchable

[100] 2023 Regular Session of the Kentucky General Assembly. The bill became law on March 29, 2023 without the Governor's signature; now codified as KRS 278.264.
[101] Note also KRS 278.020(c). "The commission, when considering an application for a certificate to construct a base load electric generating facility, may consider the policy of the General Assembly to foster and encourage use of Kentucky coal by electric utilities serving the Commonwealth."
[102] 23 RS SB 4.
[103] Big Sandy ICAP (295 MW) + Mitchell ICAP (780 MW).
[104] 2027 dipatchable capacity according to Figure 709 (1,111 MW) – Mitchell ICAP (780 MW) according to Integrated Resource Plan Volume A, Exhibit G-1.
[105] Integrated Resource Plan Volume A at 173.

generation to return to a level of 825 MW.[106] Thus, Kentucky Power plans to retire 72.5% of its dispatchable fossil fuel-based generation by 2028.[107] It plans to only partially replace the retired resources with a new gas Combustion Turbine, meeting the remaining need through construction of non-dispatchable solar (800 MW) and wind (700 MW) generation and market purchases of electricity.[108]

While there is an open legal question regarding whether the separation of Kentucky Power from the Mitchell Coal Plant will constitute the retirement of a fossil fuel-fired electric generating unit under SB 4, the plans for replacing its dispatchable generation partly with non-dispatchable, intermittent generation, run contrary, at a minimum, to the intent of SB 4.

B. The Biden administration has declared war on reliable, fossil fuel-based power generation.

Unfortunately, Kentucky Power's decision to rely heavily on unreliable intermittent resources is supported by disastrous energy policies at the federal level. President Biden campaigned on a platform of "end[ing] fossil fuel."[109] This war on fossil fuels has continued, unabated, for his entire Presidency. Of late, the President announced extreme new greenhouse gas limits for power plants that RTOs, including the Electric Reliability Council of Texas ("ERCOT"), Midcontinent Independent System Operator, Inc. ("MISO"), PJM, and SPP, have said, "could result in material, adverse impacts to the

[106] 2037 dipatchable capacity according to Integrated Resource Plan Volume A, Figure 709.
[107] Kentucky Power argues that it will not be required to apply for approval of Mitchell's retirement pursuant to SB 4. See Response to JI 1-7.
[108] As highlighted by the Response to JI 1-12, the installation of 1500 MW of nameplate capacity for wind and solar resources results in a much smaller amount of actual capacity or energy given the operating limitations of the technology.
[109] *In intimate moment, Biden vows to 'end fossil fuel'*, https://apnews.com/article/9dfb1e4c381043bab6fd0fa6dece3974 (accessed November 10, 2022).

reliability of the power grid."[110] General Cameron joined a coalition of 21 State Attorneys General led by West Virginia in submitting comments opposing EPA's proposed limits[111] as well as a second comment letter from a coalition of 18 State Attorneys General led by Ohio opposing the limits.[112] Referencing the proposed rule's reliance on unproven technology, the RTOs stated, "hope is not an acceptable strategy."[113]

Earlier this year the Biden Administration issued a revised Good Neighbor Rule ("GNR") for nitrogen oxide emissions from power plants. Thanks to the efforts of the Attorney General, EPA's GNR is stayed in Kentucky and unlikely to survive the legal challenge.[114] The stay to the denial of Kentucky's GNR State Implementation Plan ("SIP") is also a stay to the Federal Implementation Plan ("FIP"). Under the Clean Air Act,[115] there cannot be a FIP if a valid SIP is in place.[116] EPA has acknowledged this when it

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[110] Joint Comments of Electric Reliability Council of Texas, Inc., Midcontinent Independent System Operator, Inc., PJM Interconnection, L.L.C., and Southwest Power Pool, Inc., https://www.pjm.com/-/media/documents/other-fed-state/20230808-comments-of-joint-isos-rtos-docket-epa-hq-oar-2023-0072.ashx (accessed September 8, 2023).

[111] Comments on the Proposed Rulemaking Titled: "*New Source Performance Standards for GHG Emissions from New and Reconstructed EGUs; Emission Guidelines for GHG Emissions from Existing EGUs; and Repeal of the Affordable Clean Energy Rule*" *by the Attorneys General of the States of West Virginia, Alabama, Arkansas, Georgia, Idaho, Indiana, Iowa, Kentucky, Louisiana, Mississippi, Missouri, Montana, Nebraska, New Hampshire, Ohio, Oklahoma, South Carolina, South Dakota, Texas, Utah, and Virginia,*" (EPA Docket No. EPA-HQ-OAR-2023-0072) https://www.ag.ky.gov/Press%20Release%20Attachments/GHG%20EGU%20States%20Comment%20Letter.pdf.

[112] Comments on the Proposed Rulemaking Titled: "*Ohio and 17 States' comments regarding proposed rulemaking RIN 2060–AV09, as set forth in 40 CFR Part 60, 88 Federal Register 33240*," https://www.ag.ky.gov/Press%20Release%20Attachments/Greenhouse%20Gas%20Comment%20Letter.pdf.

[113] Joint Comments of Electric Reliability Council of Texas, Inc., Midcontinent Independent System Operator, Inc., PJM Interconnection, L.L.C., and Southwest Power Pool, Inc., https://www.pjm.com/-/media/documents/other-fed-state/20230808-comments-of-joint-isos-rtos-docket-epa-hq-oar-2023-0072.ashx (accessed September 8, 2023).

[114] *Commonwealth of Kentucky v EPA*, U.S. Court of Appeals for the Sixth Circuit, Case No. 23-3216; Order dated July 25, 2023; *Federal "Good Neighbor Plan" for the 2015 Ozone National Ambient Air Quality Standards; Response to Additional Judicial Stays of SIP Disapproval Action for Certain States,* 88 Fed. Reg. 67102 (September 29, 2023); *Federal "Good Neighbor Plan" for the 2015 Ozone National Ambient Air Quality Standards; Response to Judicial Stays of SIP Disapproval Action for Certain States,* 88 Fed. Reg. 49295 (July 31, 2023).

[115] 42 U.S.C. § 7401 et seq.

[116] *See generally,* 42 U.S.C. § 7410.

stated that the GNR will not be enforced in Kentucky.[117] EPA's recent track record indicates it will lose on the GNR. Currently, the GNR is stayed in five U.S. Circuit Courts of Appeal, covering ten states.[118] EPA also experienced a major blow to its expansive interpretation of its authority in *West Virginia v EPA,*[119] the U.S. Supreme Court decision regarding greenhouse gas emissions from power plants. Also, the EPA's attempt to alter the Waters of the United States ("WOTUS") rule was enjoined by the Sixth Circuit Court of Appeals in a challenge filed by the Attorney General.[120] While the Attorney General and others have had success in pushing back against this extreme agenda, President Biden's war on reliable, fossil fuel-based power generation continues.

The President's onslaught of executive orders and administrative rules comes at the expense of the American consumer. Utility bills are rising precipitously as evidenced by Kentucky Power's recent request to raise residential electric bills by 18.3%.[121] And energy prices are passed along through every good that is bought, sold, or transported throughout the world. Car prices are at historic highs this year,[122] and will continue to

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[117] EPA Memorandum from Joseph Goffman, Principal Deputy Assistant Administrator Office of Air Radiation entitled "Notice of Forthcoming EPA Action to Address Judicial Stay Orders," https://www.epa.gov/system/files/documents/2023-06/Goffman%20Memo%20re%20Stay%20Orders_060123%20JG%20%281%29.pdf (accessed September 5, 2023).

[118] *Id. See also* EPA Memorandum from Joseph Goffman, Principal Deputy Assistant Administrator Office of Air Radiation entitled "Notice of Forthcoming EPA Action to Address Judicial Stay Orders," https://www.epa.gov/system/files/documents/2023-08/23-02403-OAR-OAP%20_Memo%20from%20J.%20Goffman%20re%20Response%20to%20Further%20Stay%20Orders%20JG%20Signed%20%282%29.pdf (accessed September 5, 2023).

[119] *West Virginia v. EPA*, 142 S. Ct. 2587 (2022).

[120] *Commonwealth of Kentucky v. EPA*, U.S. Court of Appeals for the Sixth Circuit, Case No. 23-5343; Order dated May 10 2023.

[121] *Electronic Application of Kentucky Power Company for (1) a general adjustment of its rates for electric service; (2) approval of tariffs and riders; (3) approval of accounting practices to establish regulatory assets and liabilities; (4) a securitization financing order; and (5) all other required approvals and relief,* Case No. 2023-00159.

[122] *Is now the time to buy a car? High sticker prices, interest rates have many holding off,* https://www.usatoday.com/story/money/cars/2023/07/24/new-used-car-prices-delay-purchase/70447891007/ (accessed September 8, 2023).

rise due to inflation and the Biden EPA's adoption of extreme emissions standards, meant to require more Americans to purchase expensive electric vehicles.[123] Inflation during the Biden Presidency has been more than double any other President this century.[124] The so-called Inflation Reduction Act has not helped, causing even the President to admit the IRA, "has nothing to do with inflation," and "I wish I hadn't called it that..."[125] These disastrous Biden energy policies are hurting the average American.

Utilities should do that which is within their power to plan their electric system to provide adequate and reliable electricity to ratepayers. At times, this may mean foregoing reckless government subsidies that incentivize the opposite.

C. *Kentucky Power's IRP subjects ratepayers to additional risk by selecting generation resources to be located outside the Commonwealth.*

Kentucky Power insists it has not engaged in site selection for the proposed generation projects necessitated by the IRP.[126] However, Kentucky Power's proposal assumes that, "only 75% of solar and no wind would be located within the service territory."[127] Thus, Kentucky Power proposes to procure 700 MW of wind and 200 MW of solar generation from sources outside its service territory. Because Kentucky does not possess the physical characteristics necessary to support wind generation, the wind resources will almost certainly be located outside of the Commonwealth.[128]

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[123] *Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles*, 88 Fed. Reg. 29,184.
[124] *Biden's failed economy: Here's what those inflation numbers really mean for consumers, businesses*, https://www.foxbusiness.com/economy/bidens-failed-economy-inflation-numbers-consumers-businesses (accessed September 8, 2023).
[125] *Yes, inflation is down. No, the Inflation Reduction Act doesn't deserve the credit*, https://apnews.com/article/biden-inflation-reduction-climate-anniversary-9950f7e814ac71e89eee3f452ab17f71 (accessed September 8, 2023).
[126] See Responses to AG Data Requests 1-12 through 1-15.
[127] Integrated Resource Plan Volume A at 169.
[128] *Wind Energy in Kentucky*, https://eec.ky.gov/Energy/Documents/Wind%20Energy.pdf, (accessed August 28, 2023). "In general, Kentucky has low wind speeds and, therefore, limited wind energy potential."

First, Kentucky Power's decision to invest in out-of-state intermittent resources will result in higher transmission costs for ratepayers. Transmission cost is a substantial portion of wholesale electric pricing. It makes little sense to invest so heavily in out-of-state wind resources, and solar, without producing a robust analysis of the transmission costs that will be required to wheel this energy to Kentucky. The analysis produced to date is insufficient.[129] Kentucky Power should be required to engage in robust transmission modeling as part of any future resource planning docket.

Second, Kentucky Power's decision to invest in out-of-state intermittent resources will subject Kentucky citizens to greater impacts of regulation by regulators who are not politically responsive to them and who don't have their interests in mind. Solar developers are finding that siting expansive solar operations can be met with substantial resistance in ways that traditional generating resources, which occupy much smaller footprints, are not.[130] These controversies are difficult enough if they occur in Kentucky. But imagine if the regulators overseeing the development had little incentive to see to the well-being of the end-user, the Kentucky ratepayer. For example, a member of a local zoning board in Pennsylvania or West Virginia has no incentive consider the interest of a Kentucky utility ratepayer when deciding whether a wind or solar farm should be permitted. Perhaps more importantly, these resources could be taxed, if a regulator has taxing authority, with the assessment ultimately paid by Kentucky ratepayers.

These are just a couple of the problems one could envision from siting generating resources outside the political recourse of the Kentucky ratepayer.

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[129] See Response to PSC Data Request 1-42.

[130] *Mercer residents fight solar farm project to save future jobs; Critics say valuable land could bring thousands of jobs to the region*, https://www.amnews.com/2023/05/15/mercer-residents-fight-solar-farm-project-to-save-future-jobs-critics-say-valuable-land-could-bring-thousands-of-jobs-to-the-region/ (accessed September 8, 2023).

D. Kentucky Power's IRP prioritizes emissions targets over other metrics, such as cost to ratepayers.

For all seven portfolios Kentucky Power modeled, CO2 emissions are forecasted to be reduced by 74% by 2027 and by 84% to 90% by 2037. This suggests that the modeling is influenced by Kentucky Power's desire to achieve net-zero emissions, without regard to the costs that might accrue to ratepayers as a result.

Kentucky Power's parent, American Electric Power ("AEP"), publicly states that their goal is to, "produce and deliver energy that empowers positive social, economic and environmental change."[131] To further this agenda, their "plan" includes a "clean energy strategy" with the goal of "achieving net zero carbon dioxide emissions by 2045, with an interim goal to cut emissions 80% from 2005 levels by 2030."[132] Goals also include, "[g]rowing our renewable generation portfolio to approximately 50% of our total capacity by 2030," and "[a]dding approximately 15,375 megawatts of regulated wind and solar through 2032."[133] Unsurprisingly, all of the portfolios modeled by Kentucky Power correspond with AEP's goals.

But public policy for the Commonwealth is made by Kentucky's General Assembly, not AEP.[134] As a vertically integrated utility that has been granted a monopoly service territory, Kentucky Power must act at the direction of, and be responsive to, the General Assembly, which makes policy, and the Commission, which carries out that policy. Kentucky Power's actions here appear to ignore those polices, which favor dispatchable energy, acting instead at the behest of AEP's activist ESG agenda. Kentucky Power would be wise to base their decisions upon sound principles of physics and engineering

[131] *Clean Energy*, https://www.aep.com/about/ourstory/cleanenergy (accessed August 30, 2023).
[132] *Id.*
[133] *Id.*
[134] *Cameron v. Beshear*, 628 S.W.3d 61, 73 (Ky. 2021).

calculated to meet the basic energy needs of their ratepayers instead of placating out-of-state ESG interests.

E. The Company's RFPs are consistent with its plan to favor intermittent resources over thermal ones.

On September 22, 2023, two weeks before the filing deadline for these comments, Kentucky Power issued "All Source RFPs" for approximately 875 MW of Accredited Summer Capacity and approximately 1,300 MW of Accredited Winter Capacity,[135] requesting proposals for purchased power from generation produced by wind, solar, coal, and/or natural gas.[136] While the RFPs allow traditional, dispatchable resources to submit proposals, the Attorney General remains skeptical that the outcome of the process will deviate from the plan put forth by Kentucky Power in this IRP. Kentucky Power has given no indication that it intends to deviate from its intentions as expressed in this docket, and the RFPs' requirements seem consistent with Kentucky Power's plan to favor intermittent resources and disfavor dispatchable, thermal resources.

First, the Company structured the RFPs to favor intermittent resources by allowing for longer Purchase Power Agreements ("PPAs") with intermittent developers than with thermal developers. Unlike the twenty-year term proposed for wind and solar PPAs,[137]

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[135] *Kentucky Power Issues Request for Proposals for Generation Resources*, https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/Kentucky_Power_Press_Release_All_Source_RFP_Issused-092223.pdf (accessed September 25, 2023).

[136] See *Request for Proposals from Qualified Bidders for Solar Energy Resources and/or Wind Energy Resources* at https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/KPCO_2023_Wind_Solar_PPA_RFP.pdf, *Request for Proposals from Qualified Bidders for New and Existing Thermal Resources* at https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/KPCO_2023_Thermal_RFP.pdf. Additionally, a *Request for Proposals from Qualified Bidders for Battery Storage* at https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/KPCO_2023_Storage_PPA_RFP.pdf.

[137] See Section 3.3 of *Request for Proposals from Qualified Bidders for Solar Energy Resources and/or Wind Energy* Resources, https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/KPCO_2023_Wind_Solar_PPA_RFP.pdf.

the proposed PPA term for coal and gas resources is limited to seven-to-ten years.[138] It is unlikely that a prospective owner of a coal or natural gas plant will build a new generation resource with only the limited security of a seven to ten-year PPA. Thus, while the RFPs purport to invite proposals from new thermal resources, the RFPs effectively limit responses to only existing thermal resources. And while it is possible that the Company may receive some response from existing thermal resources, dispatchable resources are increasingly scarce due to the Biden Administration's war on fossil fuels. Thus, the response to the thermal RFP also may be limited. Instead, the RFPs appear to be calculated to select the intermittent resources contemplated by the IRP.

Second, the RFPs' short submittal deadline is inadequate to allow for the development of proposals. The RFPs were issued on September 22, 2023. The RFPs require proposals to be submitted by November 8, 2023. This short time frame unnecessarily limits the opportunity for interested parties to respond. The current market includes a high supply of intermittent projects, driven by the Biden Administration's energy subsidies, which are seeking buyers, while Biden's war on fossil fuels orchestrated by the EPA and others, simultaneous disfavors development of thermal projects. In such market conditions, a short time-frame for response favors intermittent projects already looking for a buyer. These distorted market conditions do not reflect the physical needs of the system. A larger response window would allow more responses and more opportunity to identify a proposal that best meets the needs of ratepayers.

[138] See Section 3.3 of *Request for Proposals from Qualified Bidders for New and Existing Thermal Resources*, https://www.kentuckypower.com/lib/docs/business/b2b/rfp/ky/KPCO_2023_Thermal_RFP.pdf.

The RFPs issued by the Company were contemplated from the start of the IRP process.[139] As such, they simply demonstrate the Company's desire to follow through on its plan to swiftly become heavily reliant on unreliable intermittent resources.

IV. Conclusion

Kentucky Power's preferred plan is bad for ratepayers and bad for Eastern Kentucky. The Commission should protect ratepayers by doing all that is within its authority to require Kentucky Power to engage in realistic resource planning that keeps ratepayer interests at the forefront.

Specifically, in its report on Kentucky Power's IRP, the Commission should:

1. Reiterate that Kentucky law requires utilities to replace existing thermal, dispatchable generation with thermal, dispatchable generation when replacement becomes necessary;
2. Make clear that membership in an RTO and compliance with the requirements of that RTO is insufficient resource planning;
3. Require Kentucky Power to investigate the feasibility of entering into purchase power agreements with LG&E/KU and/or EKPC to reduce or eliminate its capacity deficits;
4. Reject any plan for Kentucky Power to serve ratepayers through heavy reliance on unreliable, intermittent resources located outside the Commonwealth;
5. Require Kentucky Power to study whether changing market dynamics demand that ratepayers would be better served by avoiding increasingly costly market

[139] See Integrated Resource Plan Volume A at 8.2. Kentucky Power's Three-Year Action Plan included "[i]nitiat[ing] an All-Source Request for Proposal (RFP) to add cost-effective market capacity purchases and firm resources in the near future."

purchases and instead, directly generating the energy needed to serve ratepayers;

6. Require Kentucky Power to study the feasibility of fully meeting the generation needs of its ratepayers by producing power fully within the Commonwealth; and,
7. Require Kentucky Power to engage in robust transmission planning for planned projects such that all costs are considered before a decision is made with respect to generation investments.

The Attorney General appreciates that opportunity to participate in this important process.

Respectfully submitted,

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Certificate of Service and Filing

Pursuant to the Commission's Orders and in accord with all other applicable law, Counsel certifies that, on October 6, 2023, a copy of the forgoing was served via the Commission's electronic filing system.

this 6th day of October, 2023.

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Assistant Attorney General