

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

**ELECTRIC GENERATORS FOR A SENSIBLE
TRANSITION,**

Petitioner,

v.

**U.S. ENVIRONMENTAL PROTECTION
AGENCY,**

Respondent.

Case No.: 24-1128

DECLARATION OF JOHN R. CROCKETT III

I, John R. Crockett III, declare:

1. Since October 2021, I have served as President of LG&E and KU Energy LLC, the parent company of Louisville Gas and Electric Company (LG&E and KU) (collectively, the “Company”) and Chief Development Officer for PPL Corporation. I am responsible for all matters associated with the business of LG&E and KU, including state and federal government affairs, rates and regulatory strategy, local communications, stakeholder engagement, and driving economic development and growth in our communities. From 2018 to 2021, I served as General Counsel and Chief Compliance Officer for the Company. Prior to that, I served as the Company’s outside counsel handling claims arising from the gas and electric operations of LG&E and KU. I have a Bachelor’s degree from the University of North Carolina and a Juris Doctor degree from

the University of Kentucky. This declaration is based on my personal knowledge of facts and analysis conducted by staff of the Company and me.

2. In this declaration, I identify impacts on the Company, its employees, its customers, local communities, and the Commonwealth of Kentucky generally if the Company is required to undertake measures to comply with the final rule of the U.S. Environmental Protection Agency (“EPA”) entitled “New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule,” 89 Fed. Reg. 39,798 (May 9, 2024) (the “Rule”). Without a stay of the Rule, the Company, its employees, its customers, local communities, and the Commonwealth will suffer immediate and irreparable harm as the Company cannot comply with the new standards of the Rule within the timeframe required.

3. Compliance with the Rule will result in impacts including the following:
- a. Premature and accelerated retirement of approximately 4,750 megawatts (MW) nameplate capacity of the Company’s coal-fired generation, comprising nearly 55% of its generating fleet, with a current net book value of \$5.2 billion;
 - b. Accelerated construction of replacement generation by the Company on an unduly compressed schedule, which given current supply chain constraints cannot be met, ensuring, capacity shortfalls and reduced system reliability which will harm the Company’s customers and the state, generally;
 - c. Costs of at least \$7 billion for replacement generation alone before considering electric or gas transmission infrastructure upgrades, uncertain cost escalation impacts due to the compressed compliance schedule, and other costs; and
 - d. Significant rate increases which will impede economic development and job growth in the state and result in job losses at the Company and in industries sensitive to electricity costs.

4. LG&E and KU are vertically integrated regulated utilities engaged in the production, transmission, and distribution of electricity and distribution of natural gas to approximately 1.3 million customers in Kentucky and Virginia. The Company has 11 coal-fired generating units at four power plants with a total generating capacity of approximately 5,460 megawatts (MW) nameplate capacity. Additionally, the Company has 19 natural gas-fired generating units with a total generating capacity of approximately 3,234 MW. Coal or natural gas-fired generating units provide approximately 98% of the electricity needs of the Company's customers. Most of the Company's fossil-fired generation is subject to the requirements of the Rule.

COMPLIANCE OPTIONS AVAILABLE

5. Under the provisions of the Rule, the Company has three basic options for its coal-fired generating units: (1) Meet an emission rate based on 40% natural gas co-firing by January 1, 2030, which will allow the unit to operate through 2038; (2) deploy 90% efficient carbon capture and storage ("CCS") by January 1, 2032, which will allow the unit to operate after 2040; or (3) retire the unit by January 1, 2032 and bring online all necessary replacement generation by that date. Based on the Company's initial assessment of the Rule, the only compliance strategy available to the Company consists primarily of premature and accelerated retirement of the Company's coal-fired generating units and accelerated deployment of replacement generation.

6. Meeting an emission rate based on 40% natural gas co-firing by January 1, 2030 is not a certain compliance option that can be applied generally across the entire LG&E and KU coal-fired fleet due to significant impediments to natural gas transportation and infrastructure development and limited availability of transportation on interstate pipelines that serve the Company's sites. Natural gas infrastructure currently exists at only one of the Company's four

coal-fired power plant sites and even the existing infrastructure must be upgraded. Siting and permitting pose significant challenges for new pipelines to be built or upgraded for the affected plant sites. No arrangements have been made to reserve interstate pipeline capacity necessary to accommodate significant incremental gas needed for co-firing. Such arrangements will require extensive negotiations with pipeline operators on long term transportation contracts to support likely infrastructure expansion on their systems. Past experience does not support EPA's assumption that the necessary pipeline transportation and infrastructure arrangements could be fully in place by the 2030 compliance date. Based on our initial analysis, adopting this compliance option on a fleetwide basis would have a high risk of falling short of the aggressive deadlines under the Rule.

7. Deploying CCS on the Company's coal-fired generating units is not an undertaking that can be completed by January 1, 2032 due to the early stage of development of that technology, the unavailability of carbon dioxide (CO₂) transport pipelines and of sequestration sites close to our plants, and the sheer amount of investigation, engineering and design, permitting and regulatory approvals, and construction required for CCS. The Company has a history of pilot scale testing on coal-fired electric generation at the Company's E.W. Brown plant and is actively engaged in natural gas combustion turbine CCS research and development (R&D). The U.S. Department of Energy (DOE) recently selected for final award negotiation a CCS R&D project at the Company's Cane Run plant. This R&D project is projected to conclude in 2030, further demonstrating that this technology is not commercially available today. The Company looks forward to working with DOE and other partners to test and demonstrate these technologies so that they can be cost-effectively commercialized at scale in the decades to come. Based on my knowledge of technology deployment in the coal and natural gas electric generation industry, I

assert that CCS has not been adequately demonstrated at utility scale for either coal or natural gas-fired generation and is not ready for full scale commercial deployment at this time. Additionally, Kentucky lacks geology sufficient for long term CO₂ storage, so it would be necessary for carbon captured at the Company's plants to be transported by pipeline to states with geology sufficient for long term sequestration. Currently, the pipeline and other infrastructure necessary for transport to potential storage formations outside the state does not exist. Past experience does not support EPA's assumption that technology and infrastructure challenges of this magnitude can be overcome by 2032, as would be necessary to operate coal-fired generating units beyond year-end 2039. For our plants, CCS is impossible to achieve by the 2032 compliance date.

8. Under the provisions of the Rule, the Company is essentially prohibited from operating its coal-fired generation beyond year-end 2031. This will result in premature and accelerated retirement of the Company's entire coal-fired generation fleet which comprises nearly 55% of its current generating capacity with a current net book value of approximately \$5.2 billion. The units which must be retired have substantial remaining useful life and are a key part of the Company's generating fleet designed to provide reliable and affordable electricity to its customers.

REPLACEMENT GENERATION

9. Based on the Company's assessment to date, to comply with the Rule, the Company faces the extraordinary challenge of deploying an additional 4,000 MW to 5,400 MW of replacement, dispatchable generation (84% to 114%+ of the Company's current baseload generating fleet). This projection does not include any additional generation needed to accommodate increased demand due to system growth, including a potential data center deal currently being negotiated. Replacement generation will consist primarily of seven to eight

combined-cycle natural gas (NGCC) generating units supplemented by a combination of renewables (solar and wind) and battery storage.

10. Under the provisions of the Rule, it is necessary for a baseload NGCC (defined as one that would operate at a capacity factor of more than 40%) to install and operate 90% CCS by 2032. For the same reason discussed above, that is an impossible task using today's technology. Accordingly, the Company will be forced to construct significant extra capacity that must remain under-utilized in order to operate the NGCC units with an annual capacity factor less than 40%. This capacity factor requirement makes the compliance challenge even greater. It will be necessary to obtain the necessary regulatory approvals, procure the necessary land and equipment, obtain required permits, and complete construction of replacement generation by year end 2031.

11. The one NGCC plant currently in the company's fleet – the 640 MW Cane Run Unit 7, which commenced operation in 2015 – took approximately five years for design, procurement, permitting, and construction. Ongoing preparatory work for the company's newest NGCC unit – Mill Creek 5 – indicates that the development time for new units is now at least five and a half years from initial payment reserving a place in the manufacturing queue for key facility components to commercial operation of the new unit. Substantial additional development time can be expected for new units constructed on greenfield sites or subject to Prevention of Significant Deterioration program permitting. Constructing seven to eight units within a five-year time frame – as required under the rule - would not only exceed the Company's implementation capability, but also overwhelm available supply chains, third-party engineering, procurement, and construction capacity and permitting capacity of the Kentucky Energy and Environment Cabinet.

12. While renewable wind and solar generation may be part of any plan for compliance with the new Rule, real world constraints will prevent them from being the primary compliance

measure. Due to the large amount of coal-fired generating capacity to be retired in both the LG&E and KU systems and by other electricity suppliers, any renewable generation replacing the retired capacity would have to be on a scale significantly larger than all renewable facilities constructed to date. Large-scale wind and solar renewables would also require construction of battery storage on an unprecedented scale and transmission siting and permitting that will result in additional delays for pending renewable generation projects. Development of renewable wind and solar generation requires extensive design, procurement, site acquisition, permitting, and construction efforts, like other generation projects, and renewable energy projects increasingly face public opposition and lawsuits which result in delay. The limited experience of the Company and virtually every other electric utility in the nation indicates that operating renewables at such a scale would pose significant system reliability risks. Currently, and for the foreseeable future, renewable power is not dispatchable, that is, it is not always available on request. The sun does not shine 24 hours a day; the wind does not gust 24 hours a day. And battery storage is simply not at a stage of development to sustain adequately long periods of dispatchable power at scale. Renewables with battery storage also present power quality issues for the grid, with requirements for a level of synchronous generation (i.e., fossil-fired or nuclear generation).

13. Over the past 40 years, the Company has not pursued procurement and construction of even two major baseload generating units simultaneously. However, the rule will require LG&E and KU to complete seven to eight NGCC plants and major renewable generation over the span of less than five years. Other electric utilities are similarly situated, and the large number of existing unit retirements and construction of replacement units across the country will overwhelm procurement systems, supply chains, electric and natural gas infrastructure, and state regulatory approval processes not designed to handle an energy transition of this magnitude on this kind of

timeline. Delays associated with legal challenges to new facilities such as generating plants and pipelines can be expected. EPA's compliance deadlines do not reflect the massive scale of replacement power construction that will take place throughout the electric generation industry.

14. Regardless of whether the Company can meet the compliance deadlines in the rule, implementation of compliance measures including retirement of existing coal-fired plants and replacement with natural gas-fired generation and renewables will result in significant cost to the Company and its customers. Based on the Company's approximately \$1 billion cost projection for its 645 MW (net summer rating) Mill Creek 5 NGCC currently under development, deploying seven to eight similar NGCC units to comply with the Rule is expected to cost the Company a minimum of \$7 billion for construction of replacement generation alone. This cost estimate does not include electric or natural gas infrastructure upgrades, uncertain cost escalation due to the compressed compliance schedule, pipeline, and other infrastructure necessary for CCS, if implemented, and other compliance costs including the cost of any solar and wind generation added to comply with the Rule. If the Rule is not stayed, LG&E and KU will have to try to meet its requirements as much as feasible as well as their duty to serve by attempting to plan, permit, and construct these new NGCCs by 2032. This means work must commence immediately, and, as discussed in more detail later in this declaration, the Company will have spent hundreds of millions of dollars on these projects by the time the court decides the legality of the Rule, resulting in irreparable harm if the Rule is overturned in whole or part by the Court.

STATE APPROVALS

15. To retire any of its coal-fired generating units, the Company must undertake a rigorous process to comply with extensive state law requirements. KRS 278.264 establishes a rebuttable presumption against retiring fossil-fired generating units which can be overcome by

demonstrating that the replacement power is dispatchable, will maintain grid reliability, meet minimum reserve capacity requirements, and will result in cost savings to customers. The applicant must also demonstrate that retirement will not result in incremental costs that could be avoided by continuing to operate the unit in compliance with applicable law and that the decision to retire the unit is not the result of federal incentives or benefits. In 2024, additional state legislation was enacted that establishes more retirement restrictions and requires retirement requests to be reviewed by the newly created Energy Planning and Inventory Commission.

16. Expedited state approvals for retirement of coal-fired units and construction of replacement units cannot be presumed. In 2023, the Company requested approval to retire four coal-fired units and construct two NGCC units for replacements along with renewables and battery storage. After review, the Kentucky Public Service Commission approved retirement of two coal-fired units and construction of one gas-fired unit along with the renewables and battery storage, deferring other approvals to the future. At a minimum, obtaining state approvals for retirement of coal-fired units and construction of replacement units will add time to an already protracted process. This makes compliance with the deadlines in the rule even more onerous for Kentucky-based generating units.

17. Another state law in Kentucky, KRS 224.20-142 bars the Kentucky Energy and Environmental Cabinet from setting GHG performance standards for existing coal-fired generating units based on co-firing with other fuels, fuel switching, or limiting the utilization of generating units. KRS 224.20-143 imposes other restrictions on setting performance standards for natural gas-fired units. With the states having significant authority over existing units under Section 111 of the Clean Air Act, state law compels the Kentucky agency to undertake additional analysis beyond consulting EPA's guidelines. This too will delay the process for obtaining state approvals

and, in any event, injects additional complexity into the Company's compliance efforts and potentially results in more stringent requirements for electric generating units in Kentucky (further exacerbating economic disparity for Kentucky's low-income consumers). EPA's compliance deadlines under the rule are particularly onerous for a state like Kentucky with heavy reliance on existing coal-fired generation and highly prescriptive requirements for a transition to other generation.

18. The Kentucky Energy and Environment Cabinet must submit an implementation plan encompassing compliance with the rule within 24 months of the Rule's publication in the Federal Register. In order for the Cabinet to have sufficient time to prepare its plan, the Company must make retirement and replacement generation commitments to the agency almost immediately. The schedule necessary for submittal of commitments to the Cabinet is entirely inconsistent with the timeframe to obtain other state approvals required under state law.

IMMEDIATE COMPLIANCE ACTION REQUIRED

19. To comply with the highly aggressive deadlines under the Rule, the Company must commence immediate actions at substantial cost. These actions will result in both near term and long term financial commitments, binding regulatory determinations, and irreversible business decisions, unless a stay is granted.

20. To implement a compliance strategy centered on retiring coal-fired generation on an extremely accelerated schedule and constructing seven to eight NGCC units simultaneously for replacement generation, the Company must initiate immediate actions to address planning, implementation, and regulatory demands. The Company must immediately enter contracts for engineering and other technical services necessary to complete planning, design, and environmental permitting work for the replacement generation. Concurrently, the Company must

issue Requests for Proposals and commence negotiations with original equipment manufacturers (OEMs) for key components such as turbines. Based on the Company's recent development work on the Mill Creek 5 NGCC, the Company expects OEMs to demand non-refundable and non-transferable multi-million-dollar payments upfront to reserve a place in the manufacturing queue. It will be necessary for the Company to make the appropriate regulatory filings by late 2024 to commence proceedings to obtain the requisite approvals of the Kentucky Public Service Commission (KPSC) within the specified timeframe. Obtaining state regulatory approvals will require the Company to immediately retain attorneys and technical consultants required for the extensive administrative proceedings before the KPSC. Finally, the Company must immediately commence actions to obtain sufficient natural gas transportation for replacement generation at multiple sites. The Company must retain engineering and other technical consultants for planning, design, and environmental permitting for new or upgraded pipelines to serve the new NGCCs. The Company must immediately undertake efforts to obtain the necessary rights of way for pipelines, which typically involves exhaustive negotiations with landowners and often eminent domain proceedings. The Company must also immediately commence negotiations with interstate pipeline companies to reserve pipeline capacity necessary to transport the large volumes of natural gas required for NGCC generation. Based on recent negotiations regarding gas transportation service for the Mill Creek 5 NGCC, the Company expects interstate pipeline companies to demand entry into long term contracts in order to reserve the necessary pipeline capacity and cover any capacity upgrades necessary for the interstate pipelines.

21. The above compliance measures must be completed on an accelerated basis in order to allow sufficient time for construction of facilities by the compliance deadlines under the Rule. For replacement generation, the Company would need to file for KPSC approval by late 2024,

obtain the required approvals by late 2025, and enter into contracts with OEMs for equipment and interstate pipelines for natural gas transport in 2025 or early 2026. Planning and design costs are front-loaded in the process, so the vast majority of such costs will be incurred in the near term. In the case of seven or more NGCC units constructed at a total cost of more than \$7 billion, planning and design costs and procurement commitments are expected in the range of \$300 to \$700 million over the next three years. When the Company enters into equipment contracts and gas supply contracts, it will incur significant and irreversible payment obligations regardless of whether the Rule is ultimately invalidated or upheld. When the Company negotiates pipeline rights of way with landowners, it is obligated to pay compensation regardless of whether the pipeline is ultimately constructed. In pursuing the scale of replacement generation on the schedule required by the Rule, the Company expects to incur substantial and irreversible costs within the next one to three years. With the Company current estimating that it will take five and one half years after initial payment reserving a place in the manufacturing queue for key NGCC unit components to achieve commercial operation of a new unit, the Company will face intense pressure from a procurement standpoint to make substantial and irreversible financial commitments before obtaining all necessary regulatory approvals, if the Company is to have any chance of meeting compliance deadlines under the Rule.

22. The Company has contracted with an engineering consultant to determine specific measures required for co-firing 40% natural gas at each of its existing coal-fired units. The Company's initial assessment is that gas transportation constraints eliminate natural gas co-firing as a viable fleet-wide compliance strategy. To the extent that the Company determines that natural gas co-firing is feasible for some of its coal-fired units, the Company will face the same gas transportation challenges as described above for replacement NGCC units. Gas pipelines to the

plants must be upgraded or constructed in their entirety. Pipeline rights of way must be acquired. Interstate pipeline transport capacity must be secured. Additionally, the Company will need to undertake planning and design work for any necessary equipment modifications for co-firing. Because the compliance deadline for co-firing is January 1, 2030 – two years in advance of the deadline discussed above, the Company would incur substantial costs even sooner under the co-firing option. If the Company is compelled to adopt natural gas co-firing as a compliance strategy for some or all of its coal-fired units because of even greater problems with other compliance options, the Company will incur substantial near term costs on a compliance option that has a high risk of falling short of the aggressive deadlines under the Rule.

23. The Company has firmly concluded that CCS is not viable for deployment by the January 1, 2032 compliance date under the Rule. However, if the Company were to pursue that option, it would be necessary to undertake extensive planning and design work, procurement actions for capture and other equipment, and state regulatory approvals on an accelerated basis, incurring substantial and irreversible costs in the next one to three years. The challenges to build out a pipeline network to transport captured carbon dioxide to available storage sites would be even greater due to the total absence of interstate carbon dioxide pipelines and storage facilities. Deployment of new technologies and construction of entirely new facilities and systems would be expected to require substantial near term development costs.

SYSTEM RELIABILITY RISKS

24. Multiple choke points in this complex and lengthy compliance implementation chain pose serious risks to continued grid reliability, especially in the decade of the 2030's, if existing generation must retire before replacement generation can be built. The rule provides for short term extensions to address emergencies and extensions of up to one year to address reliability

problems. However, these provisions are entirely inadequate to mitigate reliability risks resulting from the multi-year delays that can be expected in completing replacement generation. Premature retirements of coal-fired generation which serve as the primary generation resource for the company and all other electric utilities in the state, coupled with foreseeable delays in replacement generation, pose a serious risk of blackouts, brownouts, curtailment of interruptible customers, and other service interruptions that will harm the safety, welfare, and prosperity of Kentucky residents.

GENERAL IMPACTS

25. The Kentucky Cabinet for Economic Development has identified low electricity costs for industrial customers as one of the key advantages that Kentucky enjoys in economic development and job creation, with average costs 17% below the national average. With the state meeting more than two-thirds of its electricity needs from coal-fired generation forced to prematurely retire, the rule will have a disproportionate impact on Kentucky's energy costs and therefore its economy. Kentucky's economic development and job creation efforts will be severely hampered by electricity costs which can be expected to increase substantially. Kentucky will be much less competitive in attracting important new projects like the recent Ford Blue Oval SK battery plant which will result in a \$5.8 billion investment creating 5,000 jobs. When industry selects other states for new or expanded facilities, the associated jobs are permanently lost to Kentucky. Significantly higher electricity costs will also affect the ability of Kentucky to retain manufacturing and other jobs already located in the state.

26. Compared to coal-fired generating units, natural gas-fired units and renewables require substantially fewer staff. Replacement natural gas-fired units will result in plant staff reductions of approximately 70%, while renewables will result in even greater staff reductions of 95+%. The job losses resulting from compliance with the rule will impose significant hardship

not only for individual employees, but also the small communities in which many of them reside. Once these experienced employees obtain reassignments, obtain jobs with other employers, or retire, it would be highly impractical to reassemble the necessary workforce to reopen retired plants even if the rule was eventually overturned without a stay in the interim. Significant additional job losses in industries sensitive to electricity prices can be expected.

27. As a byproduct of the generation process, the company's coal-fired power plants produce fly ash and gypsum which may be beneficially used in the manufacture of products such as concrete, wallboard, and fertilizer. For sale of these coal combustion residues (CCRs) to end users, the company projects revenues of \$45 million in 2024, growing to \$60 million in 2028. Revenue from the sale of CCRs is rebated back to the company's electricity customers. Cement plants and wallboard manufacturing facilities have located in close proximity to three of the company's coal-fired plants to facilitate access to a stable feedstock of CCRs for their manufacturing processes. As the company retires its coal-fired plants to comply with the rule and eliminates its CCR byproduct streams, revenue rebates to electricity customers and byproduct sales to end users will be curtailed. This will harm the company's electricity customers and pose a major threat to the continued viability of byproduct end users which have located near the company's plants for access to feedstock.

28. Generating plants located in small communities are key providers of high-paying jobs and support for local charities. Retirement of coal-fired generating plants or major reductions in their operations and workforce will result in significant negative impacts to the economy and welfare of small communities in which they are located.

29. Unless a stay is granted, the company will have to undertake immediate and irreversible actions in order to attempt compliance with the provisions of the rule. To meet the

compressed schedule under the rule, the company is unable to defer action until the court issues a final ruling on the validity of the Rule.

Executed this 23 day of May 2024.



John R. Crockett III