COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC INVESTIGATION OF NUCLEAR ENERGY, GENERATION, STORAGE, AND RELATED MATTERS	)))	CASE NO. 2025-00186

COMMENTS OF DUKE ENERGY KENTUCKY, INC.

I. INTRODUCTION AND BACKGROUND

Now comes Duke Energy Kentucky, Inc (Duke Energy Kentucky or the Company), in response to the Kentucky Public Service Commission's (Commission) June 18, 2025 Order in the above-styled proceeding and hereby submits its Initial Comments.

On April 04, 2024, Governor Beshear signed Senate Joint Resolution 140, in which the Kentucky General Assembly directed the Commission to make all staffing, organizational, and administrative preparations necessary to be ready to discharge its regulatory duties relating to applications for the siting and construction of nuclear energy facilities in the Commonwealth.[1] Recently, on June 26, 2025, the Commission initiated the above-captioned proceeding, offering stakeholders an opportunity to identify concerns and opportunities for developing nuclear energy within the Commonwealth of Kentucky. The Commission offered stakeholders, including all regulated electric generating utilities, and parties an opportunity to submit a concise list of relevant topics for discussion at an informal conference. Duke Energy Kentucky appreciates the opportunity to participate in this important strategic discussion and looks forward to working with the Commission and

[1] Senate Joint Resolution 140, April 4, 2024.

other stakeholders. The Company respectfully submits its initial comments below.

II. DISCUSSION

As the operator of the largest regulated nuclear fleet in the United States,[2] Duke Energy Corp. (Duke Energy) is engaged in several on-going conversations regarding the benefits of resource diversity, the importance of resource adequacy, and more specifically as it relates to its Kentucky utility operations, about what would signal to interested stakeholders that Kentucky is open for business with regard to nuclear generation and the larger nuclear ecosystem that would support such an endeavor. These discussions include, among other things, developing policies that would enable potential ownership and operation of nuclear generation in the Commonwealth, provide necessary regulatory certainty as it relates to timely cost recovery of such an investment, and provide important protection for both the utility's financial condition and the interests of customers. In response, Duke Energy, through Duke Energy Kentucky, has previously shared an outline of steps that are necessary to position Kentucky's utilities to potentially compete for such a significant and important economic investment.

The Company's comments should not be interpreted as the full and comprehensive list of issues, nor should it be considered as Duke Energy Kentucky committing to seeking such an investment. Rather, this list is intended to identify and suggest the essential steps that are required to support such a significant undertaking and allow Kentucky's utilities to take advantage of the growing potential opportunity for nuclear investment in the Commonwealth. These key initiatives include the following:

[2] Duke Energy owns and operates 11 nuclear reactors across six sites in North Carolina and South Carolina: Brunswick, Catawba, Harris, McGuire, Oconee, and Robinson. These units collectively provide over 9,000 megawatts of nuclear generation capacity.

- Elimination of Ambiguity that Create Barriers to Nuclear Development - The Commission and Commonwealth should consider removing state level barriers that would otherwise preclude nuclear deployment in Kentucky. These barriers include addressing statutory ambiguity that acts as limitations on the ability to establish a Decommissioning Trust Fund and the unintended consequences of the rebuttable presumption against fossil retirements.

    - Decommissioning Fund: The Nuclear Regulatory Commission (NRC) has promulgated rules that require nuclear power plant licensees to demonstrate that appropriate levels of funds will be available for the eventual decommissioning of nuclear power plants. This is accomplished through the creation of nuclear decommissioning trust funds, which are recovered through rates over the life of the generating unit.[3]

      The ability to establish such a fund through rates could be limited due to the Commission's interpretation of KRS 278.264 as enacted through Senate Bill 4 (2023), which among other things, creates the inability of a utility to recover decommissioning costs for an "electric generating unit," unless the utility first meets the rebuttable presumption against such retirement.[4] Specifically, KRS 278.264(2) provides in relevant part that "[t]he the commission shall not . . . take any other action which authorizes

[3] Duke Energy maintains qualified nuclear decommissioning trust funds for each of its operating nuclear units in the Carolinas, consistent with NRC regulations and federal tax law. These trust funds are externally managed and ensure the safe and compliant decommissioning of Duke Energy's nuclear facilities at the end of their licensed lives.

[4] *In the Matter of 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, Order at 14 (Ky. P.S.C. Oct. 12, 2023).

or allows for the recovery of costs for the retirement of an electric generating unit…unless the presumption created by this section is rebutted.”[5] The term electric generating unit, as defined by KRS 278.262 includes a “fossil fuel fired combustion or *steam generating sources* used for generating electricity… ”[6] As a steam generating source of electricity, a nuclear generator would arguably fall into the definition of an electric generating unit under KRS 278.262, and therefore would be subject to the restriction against recovery of decommissioning costs under KRS 278.264 unless the utility first meets the rebuttable presumption against retirement. An inability to recover decommissioning costs over the life of the unit directly conflicts with the NRC requirements to establish a decommissioning trust fund at the time of operation of the nuclear facility.[7] This legal ambiguity must be addressed before any electric utility can seriously consider making such an investment.[8]

- Unintended Consequences of the Rebuttable Presumption - Additionally, simply creating a “nuclear exception” to KRS 278.264 so to permit compliance with the NRC requirement for decommissioning funds will not be sufficient as this rebuttable presumption against retirement must also be considered in relation to the

[5] KRS 278.264(2).

[6] KRS 278.262(1).

[7] 10 CFR 50.33 (k)(1) and 10 CFR 50.75 (4)(e)(1)(ii).

[8] Certain end-of-life costs fall outside the scope of the NRC-mandated nuclear decommissioning trust fund and therefore require a separate mechanism to address cost recovery. In addition to the decommissioning fund, Duke Energy also maintains end-of-life nuclear reserves in the Carolinas to address the costs associated with remaining nuclear fuel and plant inventory at the time of facility shutdown. Because unused fuel and site-specific materials and supplies typically cannot be transferred to another nuclear facility, the expected cost of these remaining assets are estimated and set aside to ensure customers are not burdened with unplanned costs after a unit retires.

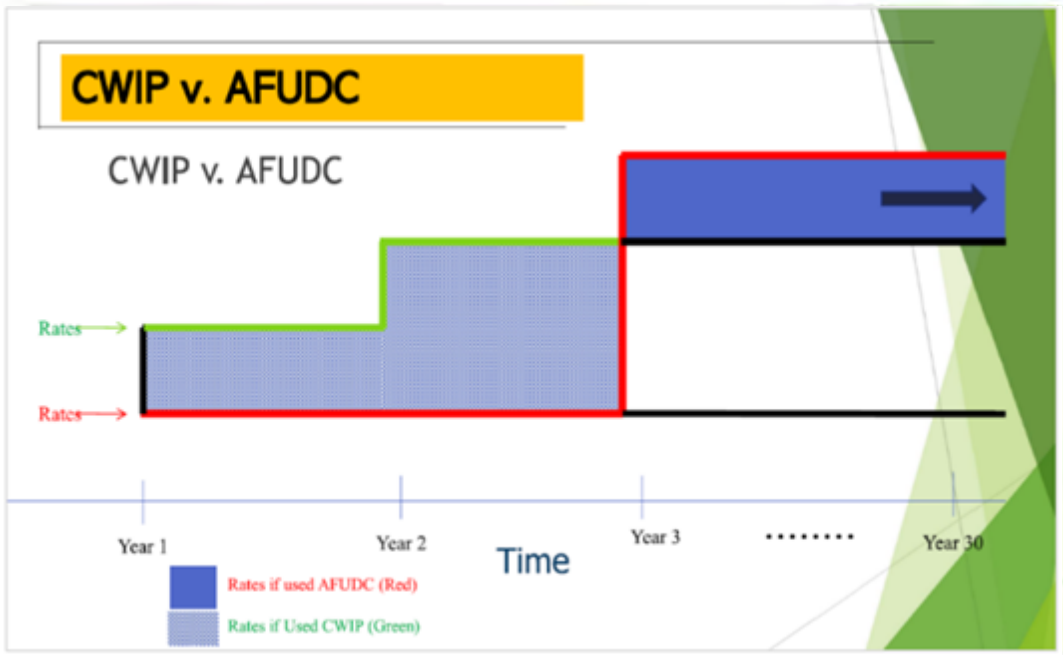
existing fossil or steam production generating that the future nuclear unit would replace. Under Kentucky's well-established process for obtaining Certificates of Public Convenience and Necessity (CPCN), the utility must demonstrate that its proposed construction represents the least-cost, most reasonable solution for customers. The newly interpreted inability for utilities to recover decommissioning costs, such as terminal net salvage expense of existing fossil and steam generating units creates the unintended consequence of such costs now becoming part of the equation of KRS 278.264(2)(b) as "an incremental cost to be recovered that could be avoided by continuing to operate the electric generating unit proposed for retirement."[9] If a nuclear project must recover decommissioning costs from a retiring fossil-fuel asset as well as the decommissioning costs for the nuclear asset this will artificially increase the cost disparity as compared to alternate fossil-fuel generation under KRS 278.264(2)(b).

- Early Site Permit (ESP) - The Commission should consider making a determination that an ESP is used and useful as plant in service and recoverable through rates once it is approved by the NRC. An ESP is an asset that can be held or sold by a company. These assets are valid for 20 years and can be renewed for an additional 10 to 20 years. This treatment of ESPs enables progress on risk reducing activities by gaining regulatory certainty on siting issues without committing to the full project funding. If a utility determines that moving forward with construction of a nuclear asset is not in the best interest of customers at the time the ESP is issued, it can wait for a more favorable time, or the asset can be

[9] KRS 278.264(2)(b).

sold and removed from rate base.

- Construction Work In-Progress (CWIP) – The Commission should consider allowing annual adjustments for recovery of CWIP through regulation or by supporting legislation for the Kentucky General Assembly to consider. CWIP phases in rate impacts gradually over time as construction occurs rather than significant rate increases from waiting to bill customers until the plant is in-service. It also lowers plant financing costs that customers eventually pay as part of their bills because it ultimately results in a lower rate base, as compared to a Company recording and recovering from customers an Allowance for Funds Used During Construction (AFUDC), as demonstrated by the following graph:



Source: NARUC Ratemaking Course Conference Slides

- Given the lengthy construction timeline for nuclear projects, it is critical that CWIP treatment be guaranteed by regulation or legislatively to protect the customers and utilities. Additionally, specific to the investor-owned utility model,

the rating agencies view consistency and predictability of rate making as a leading factor in determining the business risk profile of a utility, the foundation of a utility's credit rating. A healthy balance sheet, underpinned by a strong credit rating, provides ready access to capital to fund utility investments on reasonable terms for the benefit of customers. The key to providing such stability includes the assurance of the ability to timely recover prudently incurred financing, development, and construction costs in the event of project cancellation. The Commission should consider an annual review process during construction. In the event of cancellation, any costs that were deemed prudent in the annual review should be recoverable in order for the utility to manage its risk.

- Licensing and Project Development Costs- Nuclear projects require significant expenditures on early-stage activities, including NRC licensing, siting, environmental permitting, and feasibility studies. As much as 50 percent of a nuclear project's cost must be spent before a CPCN is granted. The Commission and/or legislature should adopt a process for a prudency review to protect customers and ensure utilities have a path to recover these costs. There is likely a need for the Commonwealth to adopt some portion of the risk of deployment to allow a project to move forward. For example, on April 10, 2025, Indiana Governor Mike Braun signed Senate Bill 424[10] into law, allowing utilities to recover 80 percent of these costs under an approved rate schedule. The remaining 20 percent of costs are deferred to the utilities' next general rate case. Upon completion of a prudency review in that base rate case, these costs are recovered through rates.

[10] Indiana Senate Bill 424 (2025).

- Site Readiness – The Commission and the Commonwealth should also consider identifying potential nuclear development sites. Early site designation could streamline the regulatory review process and signal Kentucky's commitment to nuclear development.

- Joint Ownership Authorization – The Commission and the Commonwealth should consider enabling joint-ownership models, including multi-state partnerships. Encouraging shared ownership via clear regulatory authorization could enable a more capital-efficient deployment model for nuclear in the Commonwealth.

- Support for Emerging Nuclear Technologies – The Commission and the Commonwealth should recognize the importance of emerging nuclear technologies – particularly advance nuclear reactors, including microreactors, small modular reactors (SMRs), and advanced reactor designs – when evaluating new nuclear generation in Kentucky. These advanced technologies may offer unique advantages, such as lower upfront capital costs, shorter construction timelines, and the ability to scale output to meet evolving load needs. Such characteristics may make them well-suited for Kentucky's energy landscape, especially in areas with growing demand. The Commonwealth should position itself to attract federal funding and investor capital by ensuring that its regulatory framework expressly supports the deployment of advanced nuclear technologies.

III. CONCLUSION

Duke Energy Kentucky appreciates the opportunity to offer its initial comments and a list of topics for inclusion at the informal conference and hopes that its comments will

aid the Commission in exploring the possibility of nuclear energy in the Commonwealth. The Company reserves the right and ability to supplement these comments or respond to those submitted by other stakeholders throughout this proceeding.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.

/s/Rocco D'Ascenzo

Rocco O. D'Ascenzo (92796)
Deputy General Counsel
Larisa M. Vaysman (98944)
Associate General Counsel
Sheena McGee Leach (1000598)
Staff Attorney
Duke Energy Business Services LLC
139 East Fourth Street, 1303-Main
Cincinnati, Ohio 45202
Phone: (513) 287-4320
Fax: (513) 370-5720
rocco.d'ascenzo@duke-energy.com
larisa.vaysman@duke-energy.com
sheena.mcgee@duke-energy.com

Counsel for Duke Energy Kentucky, Inc.

CERTIFICATE OF SERVICE

This is to certify that the foregoing electronic filing is a true and accurate copy of the document in paper medium; that the electronic filing was transmitted to the Commission on July 11, 2025; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that submitting the original filing to the Commission in paper medium is no longer required as it has been granted a permanent deviation.[11]

/s/Rocco D'Ascenzo
Counsel for Duke Energy Kentucky, Inc.

[11] *In the Matter of Electronic Emergency Docket Related to the Novel Coronavirus COVID-19,* Order, Case No. 2020-00085 (Ky. P.S.C. July 22, 2021).