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

Topic List for Informal Conference

In its Order establishing this proceeding, the Public Service Commission of Kentucky ("Commission") requested that interested parties file a short list of relevant topics to be addressed during an informal conference regarding nuclear energy, generation, storage, and related matters.

The parent company and affiliates of Kentucky Power Company ("Kentucky Power" or the "Company") have significant experience both in the construction and operation of "traditional" nuclear facilities, and with the pursuit of newer smaller nuclear facilities (specifically, Small Modular Reactors ("SMRs")). SMR technology is advancing but remains costly while the technology moves from initial design to routine development and deployment. Nevertheless, the Company recognizes the benefits associated with SMRs, as set forth below:

- SMRs are a fraction of the size of traditional nuclear reactors and can be factory-assembled and shipped to site for installation, increasing affordability and reducing construction time.
- SMRs utilize a simpler design that prioritizes safety and minimizes impacts on land and natural resources.
- SMRs incorporate enhanced safety features, including automatic systems and inherent safety characteristics. Like traditional nuclear power facilities, SMRs are staffed by highly trained personnel who will coordinate with local emergency management agencies and the NRC to ensure the plant operates safely.
- SMRs are dispatchable, emit no carbon, operate at higher capacity factors than other carbon free generation resources, and have a lifespan of at least 60-80 years.
- SMRs offer potential waste management advantages over traditional large-scale reactors. Many SMR designs use advanced fuel technologies and modular refueling strategies that can reduce the frequency and volume of spent fuel handling, potentially lowering long-term storage and disposal requirements and costs.
- SMR development can provide new opportunities for skilled workers, generate additional jobs and tax revenue, and spur economic growth.
- SMRs provide generation resource diversification and complement other carbon-free energy sources.

This experience informs the list of proposed issues for discussion set out below.

1. **Potential Statutory Changes to Support Nuclear Development in Kentucky**

    a. Cost Recovery

        i. The Kentucky Legislature should consider, given the long (over ten years) development time for nuclear generation projects, enacting statutes that specifically allow for concurrent recovery of early development costs as well as return on projected construction work in progress and allowance for funds used during construction.

            - Such an early cost recovery approach has been implemented in both Indiana (*see* Ind. Enrolled Act No. 424) and Virginia (*see* Va. Code § 56-585.1:15).
            - Kentucky Power's affiliate, Appalachian Power Company, is actively involved in a proceeding under that Virginia statute.

        ii. The Kentucky Legislature should consider enacting statutes relating to the recovery of costs associated with nuclear waste storage.

            - Nuclear waste storage costs are a unique and heavily regulated component of electric utility expenses. Classification of these costs for rate recovery purposes depends on the type of waste, stage of the nuclear plant's life cycle, and jurisdictional rules.
            - Removal and Decommissioning Costs: Long-term disposal of nuclear waste (*e.g.*, transfer to a federal repository, if operational), decommissioning of storage facilities, and site remediation costs are often pre-funded through decommissioning trust funds or nuclear waste funds, where utilities may collect these funds from ratepayers over the plant's life. Additionally, ensuring recovery of decommissioning costs for existing plants is important to avoid generational subsidies to the extent the utilities are allowed to concurrently recover decommissioning costs of new nuclear facilities.

    b. Certificate of Public Convenience and Necessity ("CPCN") and Site Compatibility Timeline

        i. The Commission should apply existing statutory approval deadlines for CPCNs) and site compatibility certificates for new nuclear projects.

    c. CPCN Approval Factors

        i. The Kentucky Legislature should enact statutes, and/or the Commission should adopt regulations, expanding the criteria for approvals of new nuclear generation CPCNs to include consideration of the provision of clean, reliable, and dispatchable energy; job creation; tax base increases; redevelopment of existing or former brownfield or industrial sites; and indirect impact on businesses. Such an expansion would assist in the approval of nuclear generation because the traditional least-cost analysis would be challenging to overcome.

d. Unique Financing Arrangements

    i. The Kentucky Legislature should enact statutes that support or financial arrangements that reduce risk to ratepayers, such as public/private partnerships.

e. Water Rights

    i. The Kentucky Legislature should enact statutes that support the utility's guaranteed access to sufficient water to operate the facility.

f. Premium Return on Equity ("ROE") to Encourage Utility Investment in Nuclear.

    i. The Kentucky Legislature and the Commission should consider authorizing a premium ROE for nuclear power projects similar to what has been done in other states, to encourage investment. For example, a premium ROE for nuclear power projects could take the form of an award of 200 basis points above the general ROE for the first 10 years of a nuclear unit's commercial operations.

2. Regulatory Changes for Efficient and Effective Regulatory Proceedings

a. Practice and Procedure

    i. The Commission should adopt regulations and permitting processes that will streamline the siting and approval of nuclear facilities by increasing process certainty and clarity. The Commission should also communicate the timeline for adopting and communicating these changes to interested stakeholders.

b. Other Regulatory Bodies

    i. Given that federal regulations and processes largely govern site selection and waste storage for nuclear facilities, there should be a defined role for this Commission and how it will coordinate most effectively with other state agencies, such as the Kentucky Department for Environmental Protection, and federal agencies, such as the Nuclear Regulatory Commission, to avoid regulatory duplication or conflict.

3. Tariff Initiatives to Support Nuclear Development in Kentucky

a. The Commission should develop cost sharing/economic development initiatives that utilities can adopt to encourage large customers to locate in the Commonwealth and help buy down the cost of new nuclear facilities for the utility's other customers. For example, the Commission could develop a tariff that creates a "zero carbon" commodity that customers can purchase and use towards meeting corporate clean energy goals.

4. **Community Engagement**

    a. The Commission should develop guidelines and/or procedures to ensure equitable community engagement and to address public concerns about safety, environmental impact, and economic development.

5. **Workforce and Expertise Development related to Nuclear Development**

    a. The Commission should consider how utilities can support workforce development initiatives and collaborate with Kentucky Nuclear Energy Development Authority ("KNEDA") and educational institutions, including community colleges.

    b. The Commission should consider how utilities can support the development of the technical expertise inside the Commission to evaluate and approve nuclear applications.

6. **Grid Integration and Reliability**

    a. The Commission should consider necessary grid upgrades or transmission planning considerations to support nuclear generation.

    b. The Commission should consider integration of nuclear facilities into Kentucky's broader reliability and resilience planning.

Kentucky Power appreciates the Commission's interest in this important issue and looks forward to working with the Commission and the other stakeholders in the Commonwealth.

Respectfully submitted,

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