

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2024 INTEGRATED RESOURCE)	CASE NO.
PLAN OF DUKE ENERGY KENTUCKY, INC.)	2024-00197

DUKE ENERGY KENTUCKY, INC.’s POST HEARING COMMENTS

I. INTRODUCTION

On June 21, 2024, in compliance with the Commission’s August 1, 2023, Order in Case No. 2021-00245,¹ Duke Energy Kentucky, Inc., (Duke Energy Kentucky of the Company) filed its Electronic 2024 Integrated Resource Plan (2024 IRP). On July 16, 2024, the Kentucky Public Service Commission established a procedural schedule in this proceeding that, among other things, provided time limits for intervention, discovery, the ability to file intervenor comments and the Company to submit reply comments (Procedural Order).² The Commission granted the intervention requests of the Office of the Kentucky Attorney General (KY AG), Sierra Club, and Joint Intervenors, Kentucky Solar Energy Society, Kentuckians for the Commonwealth, and Kentucky Resources Council (Joint Intervenors). Consistent with the Commission’s Procedural Order, the three intervening parties filed their respective comments.

An evidentiary hearing occurred on December 10, 2024. On December 16, 2024, the Commission issued a procedural schedule that permitted post hearing requests for

¹ Case No. 2021-00245, *In the Matter of the Electronic 2021 Integrated Resource Plan of Duke Energy Kentucky, Inc.* (Ky. PSC Aug. 1, 2023), Order.

² *Id.*, (Ky. PSC July 16, 2024), Order.

information and for the filing of post hearing comments, a Staff Report, and an opportunity for parties to submit comments to that Staff Report.³ On January, 17, 2024, the Commission granted the Company's request for additional time to respond to certain discovery responses and amended its previous procedural schedule such that post hearing comments are due on or before February 20, 2025, a Staff Report submitted by March 24, 2025, and an opportunity for parties to submit comments to that Staff Report by April 7, 2025 (Amended Procedural Schedule).⁴

II. OVERVIEW OF THE COMPANY'S RESOURCE PLAN

As the Company explained in its November 27, 2024 Reply Comments, the Company's resource planning process "assesses various supply-side, demand-side and emission compliance alternatives to develop a long-term, cost-effective portfolio to provide customers with reliable service at reasonable costs" and "involves various assumptions such as future energy prices, future environmental compliance requirements and reliability constraints."

The Company's 2024 IRP represents Duke Energy Kentucky's proposed roadmap to meet future energy and demand requirements without compromising reliability of service, energy affordability or the power demands of a growing region and factors in updated policies at both the state and federal level including:

- The Inflation Reduction Act (IRA) particularly expanded investment and production tax credits for non-CO₂ emitting generating resources;

³ Order (Ky. PSC Dec. 16, 2024).

⁴ Order (Ky. PSC Jan. 17, 2025).

- The Environmental Protection Agency (EPA) Clean Air Act (CAA) Section 111 April 2024 Updates (US EPA 111d) regulating existing coal and new natural gas generation facilities;
- Updates to Effluent Limitation Guidelines (ELG); 316 a & b (thermal discharge limits and fish impingement/entrainment at water intakes); and tightened Mercury & Air Toxics Standards (MATS); and,
- Removal of a CO₂ tax on plant emissions as a future policy primarily due to the inclusion of the IRA and US EPA 111d provisions.

Additionally, Duke Energy Kentucky evaluated potential pathways for East Bend's continued operation and replacement options under two scenarios: with and without the US EPA 111d. For each scenario, an optimized portfolio was developed. The 2024 IRP analyzed seventeen portfolio scenarios. The 2024 IRP reflects Duke Energy Kentucky's preferred portfolio that includes conversion of East Bend from 100 percent coal generation to coal generation with gas co-firing capabilities, or dual fuel operation (DFO) to be in service as of December 31, 2029. The 2024 IRP includes continued operation of the Woodsdale CT's and the addition of a combined cycle (CC) at East Bend beginning on January 1, 2039. The East Bend DFO conversion is driven by environmental regulations, primarily the US EPA 111d that was not in place in 2021. US EPA 111d limits coal plants to four compliance pathways:

- Retire by January 1, 2032, without restriction on operation until retirement;
- Convert the unit to full natural gas operation by January 1, 2030;
- Convert to at least 40% gas-cofiring by January 1, 2030; or
- Add Carbon Capture and Sequestration (CCS) by January 1, 2032.

As part of its modeling, the Company determined that natural gas-cofiring was the preferred strategy because it adds needed fuel diversity and security to the Duke Energy Kentucky system, reduces customers' exposure to PJM market prices, provides for a measured energy transition while allowing time for technological advancements related to permanent replacement generation, and is in line with Kentucky's energy policies and priorities.

The 2024 IRP analyzes the portfolio beyond East Bend's December 31, 2038, estimated retirement date because of the US EPA 111d, and includes a 1x1 CC as the optimal replacement resource for East Bend at the time of its retirement. Additionally, the IRP also includes renewable resource assumptions. While the 2024 IRP identifies replacement generation as a 1x1 CC, there is time between this filing and East Bend's compliance-driven retirement to allow other technologies such as nuclear small modular reactors (SMR) or CC paired with CCS (CC w/ CCS) to evolve such that these other technologies may be used as a replacement for East Bend.

III. POST HEARING COMMENTS

As part of the December 10, evidentiary hearing, the Company proffered twelve witnesses testifying to support the IRP analysis and conclusions.⁵ While some of these witnesses were excused or cross-examination was waived, intervening parties nonetheless, had an opportunity to question each of these witnesses. Indeed, certain witnesses were cross-examined at great length. The Company believes that the evidentiary hearing and subsequent post-hearing data request responses support the reasonableness of the Company's 2024 IRP analysis and conclusions.

⁵ Duke Energy Kentucky's Witness List (Dec. 3, 2024).

The Company's 2024 IRP followed the Commission's regulations and contained all of the necessary filing requirements. No intervening party claims otherwise. The Company's modeling of various inputs, its assumptions and forecasts were updated from previous plans and were otherwise reasonable and consistent with prior methodologies used by the Company in previous resource planning submissions. Again, no intervening party claims to the contrary. The Company's current plan incorporated the Commission's recommendations from the last IRP as well as updates for known changes in environmental regulations, as well as changes in Kentucky Law regarding retirements of fossil generation. As explained at the hearing, the retirement projections for the Company's coal generation incorporate these new regulations, including the feasibility and timing of bringing new resources online to meet customer demand now and over the resource plan horizon.⁶ It is important to note, that while the Company's proposals for complying with future regulations and meeting customer demand may be the Company's most reasonable solutions based upon the inputs available at the time of IRP analysis, the purpose of this IRP is not to authorize the execution of such strategies now. Indeed, any retirement, replacement, or construction of replacement generation will need separate approval by the Commission in a future proceeding. This IRP proceeding is not that venue.

IV. CONCLUSION

The Company's 2024 IRP was thorough, consistent with prior IRP analysis accepted by the Commission, and presents a reasoned and well considered plan for meeting Duke Energy Kentucky's customers' energy needs over the long-term in the least-cost, most reasonable manner. Execution of such strategies will necessarily come in future

⁶See generally, Kalembe Cross, Hearing Video Recording at 1:32:20-1:35:29.

proceedings where the Company will have the burden of proof to establish that such strategies are reasonable.

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

Duke Energy Business Services LLC

139 East Fourth Street, 1303-Main

Cincinnati, Ohio 45202

(513) 287-4320 (telephone)

(513) 370-5720 (fax)

rocco.d'ascenzo@duke-energy.com

larisa.vaysman@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 February 20, 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.⁷

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

⁷ Case No. 2020-00085, *In the Matter of Electronic Emergency Docket Related to the Novel Coronavirus COVID-19* (Ky. PSC July 22, 2021), Order.