

**COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

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

**POST-HEARING COMMENTS OF JOINT INTERVENORS  
KENTUCKIANS FOR THE COMMONWEALTH, KENTUCKY  
SOLAR ENERGY SOCIETY, AND KENTUCKY RESOURCES  
COUNCIL ON DUKE ENERGY KENTUCKY'S 2024  
INTEGRATED RESOURCE PLAN**

Tom FitzGerald  
Ashley Wilmes  
Byron Gary  
Kentucky Resources Council  
P.O. Box 1070  
Frankfort, KY 40602  
(502) 551-3675  
[FitzKRC@aol.com](mailto:FitzKRC@aol.com)  
[Ashley@kyrc.org](mailto:Ashley@kyrc.org)  
[Byron@kyrc.org](mailto:Byron@kyrc.org)

*Counsel for Joint Intervenors,  
Kentuckians for the Commonwealth,  
Kentucky Solar Energy Society, and  
Kentucky Resources Council*

Dated: February 20, 2025

**TABLE OF CONTENTS**

**INTRODUCTION**..... 3

**DISCUSSION**..... 5

    I. Often the least-cost resource available, Demand-Side Management must be evaluated as part of long-range resource planning..... 5

    II. Duke’s IRP Does Not Make A Reasonable Attempt To Transparently And Specifically Report “Steps To Be Taken” In The First Three Years..... 7

    III. The 2024 IRP unreasonably skipped evaluation of economic retirement of existing units, particularly where there are long lead-times for replacements..... 9

    IV. Transmission and Distribution resources are significant cost-drivers for utility service and must be evaluated as part of long-range resource planning lest opportunities for lower-cost service may be missed..... 10

**CONCLUSION**..... 13

**JOINT INTERVENORS' POST-HEARING COMMENT ON  
DUKE ENERGY KENTUCKY'S 2024 INTEGRATED RESOURCE PLAN**

Kentuckians for the Commonwealth, Kentucky Solar Energy Society, and Kentucky Resources Council (collectively, "Joint Intervenors"), in accordance with the December 16, 2024 Order of the Kentucky Public Service Commission ("Commission"), as amended by the Commission on January 17, 2025, herewith offer post-hearing comments on Duke Energy Kentucky, Inc.'s ("Duke" or "the Company") 2024 Integrated Resource Plan ("IRP").

**INTRODUCTION**

Joint Intervenor's pre-hearing comment on the Company's 2024 Integrated Resource Plan ("IRP") focused on four foundational shortcomings: (1) failure to evaluate optimal demand-side management resources as part of integrated planning; (2) failure to disclose "steps to be taken" in the first three years of the IRP with a reasonable level of specificity; (3) unreasonable assumptions and constraints in the supply-side modeling; and (4) failure to evaluate transmission and distribution efficiencies as part of integrated planning.

Joint Intervenors' position on these points has not changed.

If anything, the Company's November 27, 2024 Reply Comment, witness testimony at hearing, and post-hearing data requests strengthen Joint Intervenors' view that Duke's 2024 IRP does not reasonably satisfy the regulatory requirements. Without repeating the legal standard or original discussion presented through Joint Intervenors' Initial Comment, this Comment responds to further evidence and argument developed in relation to the four shortcomings listed above.

Ultimately, Joint Intervenors ask Commission Staff to include the following recommendations in the Report on Duke's 2024 IRP:

- A. Future IRPs must include evaluation of “conservation and load management or other demand-side programs not already in place,”<sup>1</sup> in an integrated manner within its resource planning, and apply the principles from the National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources (“NSPM-DER”).<sup>2</sup>
- B. Future IRPs should evaluate innovative new DSM programs with potential to temper load growth or even overall demand and provide benefits to both individual ratepayers and lower the Company’s rate base overall.<sup>3</sup>
- C. Future IRPs must provide “steps to be taken” in the first three years to implement the preferred plan with a greater degree of specificity as appropriate to advance transparent utility planning and meaningful regulatory review.<sup>4</sup>
- D. Potential economic retirement timelines for existing resources should be evaluated as a matter of course in IRPs, particularly where there are reasonable indicators that a unit may be approaching the end of its economically useful life, as was the case here with East Bend 2.<sup>5</sup>
- E. In order to account for uncertainties in long-range planning, future IRPs should use proxy costs and scenario comparisons to test the cost and operational risks of various portfolio options under more and less aggressive greenhouse gas emission limitations.<sup>6</sup>
- F. Next IRP should include updates and discussion of PJM’s regional transmission planning process and the Company’s engagement with PJM stakeholders on the same subject;

---

<sup>1</sup> 807 KAR 5:058, Section 8(2)(b).

<sup>2</sup> Please note that additional Demand-Side Management related recommendations are provided in the Nov. 6, 2024 Comments of Joint Intervenors Kentuckians For The Commonwealth, Kentucky Solar Energy Society, and Kentucky Resources Council on Duke Energy Kentucky’s 2024 Integrated Resource Plan at 13 (hereinafter “JI Initial Comment”).

<sup>3</sup> JI Initial Comment at 14-15.

<sup>4</sup> *Id.* at 15-17; 807 KAR 5:058 Section 5(5). Note that pages 17-17 of Joint Intervenors’ Initial Comment non-exhaustively lists potential specific reporting recommendations for a utility three-year implementation plan.

<sup>5</sup> *Id.* at 19-21.

<sup>6</sup> *Id.* at 21-24.

analysis of local transmission and distribution projects and efficiencies that could reduce overall system costs, including but not limited to enabling new generation; and present an assessment of and plans to improve the resilience and reliability of transmission and distribution systems.<sup>7</sup>

## DISCUSSION

### **I. Often the least-cost resource available, Demand-Side Management must be evaluated as part of long-range resource planning.**

With respect to evaluation of demand-side management in IRPs, Joint Intervenors and the Company mostly agree. We agree that the IRP regulation requires evaluation of demand-side management potential;<sup>8</sup> we agree that the demand-side management potential refers to measures and programs that are technically feasible, commercially available, and capable of cost-effective implementation;<sup>9</sup> we agree that the Company's demand and energy savings assumptions had the effect of reducing the load forecast used to model supply-side alternatives;<sup>10</sup> and we agree that the Company did not evaluate any new or expanded DSM program options as part of the IRP.<sup>11</sup> Despite agreement on the legal standard and material facts, the Company insists that its evaluation of demand-side management potential was reasonable for three reasons, but each falls flat.

First, while the Company does evaluate its DSM portfolio on a regular basis and as required by KRS 278.285,<sup>12</sup> that does not relieve the Company of the separate obligation to

---

<sup>7</sup> *Id.* at 25-29.

<sup>8</sup> 807 KAR 5:058 Section 8(2)(b) ("The utility shall describe and discuss all options considered for inclusion in the plan including . . . Conservation and load management or other demand-side programs not already in place"); Duke 2024 IRP at 9 ("In addition to constructing a Preferred Portfolio for the operating environment, it is necessary to assemble a full catalog of the resource options, both supply-side and demand-side, that will be considered for inclusion in the plan to meet future capacity needs.").

<sup>9</sup> JI Initial Comment at 6-15 ; Duke Reply at 6-7.

<sup>10</sup> Duke Response to Joint Intervenors Request No. 1-044(a)-(c).

<sup>11</sup> Duke Response to Joint Intervenors Request No. 1-046(b).

<sup>12</sup> Duke Energy Kentucky, Inc's Public Reply Comments at 6 (*hereinafter* "Duke Reply").

follow the IRP regulation requirement to evaluate existing and potential new or expanded DSM measures or programs as part of integrated resource planning, pursuant to 807 KAR 5:058, Section 8(2), once every three years. In addition, Duke stated at hearing that it has not conducted a market potential study for its Kentucky territory in over a decade, and has no plans to conduct such a study in the future.<sup>13</sup> Duke therefore failed adequately evaluate options in any separate case, let alone in the context of integrated planning, as required here. Instead, the Company contends that a new evaluation would be too costly by adding to existing program costs,<sup>14</sup> without knowing what potential savings or avoided costs might even be possible. Staff should require the Company to evaluate this potential before its next IRP, and include a complete evaluation as part of the integrated resource planning process.

Second, the Company cautions that it is limited to implementing cost-effective DSM measures,<sup>15</sup> even though Joint Intervenors have not advocated for investment in inefficient resources—quite the opposite. Joint Intervenors’ point is that cost-effective DSM measures and programs are by definition less costly than supply-side alternatives.<sup>16</sup> As a result, achieving least-cost resource planning requires evaluation of achievable savings potential, and modeling of that demand-side potential on a level playing field with often higher-cost supply-side resources. Duke’s 2024 IRP did not do that, but future IRPs should. Indeed, the Commission has already indicated that the Company should evaluate this possibility.<sup>17</sup>

Third, the Company faults Joint Intervenors for not offering an evaluation of “portfolio implications” had it evaluated new or expanded DSM programs capable of delivering cost-effective savings.<sup>18</sup> This confuses the duties of utilities and the duties of stakeholders and

---

<sup>13</sup> Hearing Video Transcript at 4:37:30-4:40:00 (*hereinafter* “HVT”).

<sup>14</sup> *Id.*

<sup>15</sup> Duke Reply at 6-7.

<sup>16</sup> JI Initial Comments at 13.

<sup>17</sup> HVT at 4:51:45-4:52:13.

<sup>18</sup> Duke Reply at 7.

intervenors. Regulated utilities are required to follow the law, including the IRP regulations, and carry the burden of showing that their analysis and evidence passes muster. The IRP regulation directs utilities to evaluate existing and potential new DSM resources as part of integrated resource planning once every three years.<sup>19</sup> That is Duke’s responsibility; no intervenor can cure the 2024 IRP’s admitted failure to consider “conservation and load management or other demand-side programs not already in place.”<sup>20</sup>

JIs reiterate our recommendations from our initial comments that Commission Staff recommend Duke fully evaluate its DSM offerings in an integrated manner within its resource planning, and apply the principles from the National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources (“NSPM-DER”).<sup>21</sup>

## **II. Duke’s IRP Does Not Make A Reasonable Attempt To Transparently And Specifically Report “Steps To Be Taken” In The First Three Years.**

Joint Intervenors’ Initial Comment noted the lack of clarity and specificity in the Company’s reporting of “steps to be taken” in the first three years of the IRP planning period.<sup>22</sup> To the Company’s credit, additional specificity was provided via Response Comment, and then further detail was developed at the hearing. As a result, there is a clearer picture of what to expect in the nearterm:

---

<sup>19</sup> 807 KAR 5:058, Section 8(2)(b) (“The utility shall describe and discuss all options considered for inclusion in the plan including: ... (b) Conservation and load management or other demand-side management programs not already in place...”).

<sup>20</sup> *Id.*

<sup>21</sup> Synapse Energy Economics, NPSM for Benefit-Cost Analysis of Distributed Energy Resources (Aug. 2020), <https://www.synapse-energy.com/national-standard-practice-manual-benefit-cost-analysisdistributed-energy-resources> (“NSPM-DER”); *see* JI Initial Comments at 12-13.

<sup>22</sup> JI Initial Comment at 15-17.

- (1) The Company is pursuing approval to convert the wet FGD scrubber at its East Bend 2 unit, and should a CPCN be granted, the Company will perform detailed engineering studies, procure necessary equipment, and complete the project.<sup>23</sup>
- (2) The Company intends to conduct preliminary engineering, file for modification of the air permit, file a CPCN application for the project, negotiate a gas supply agreement, perform detailed engineering, and procure major equipment in order to convert East Bend 2 to co-fire with methane gas. The Company will monitor legal and regulatory developments.<sup>24</sup>
- (3) Solar: The Company intends to seek necessary permits and CPCNs for new resources to be online by 2029 and 2031.<sup>25</sup>

Unfortunately, the IRP itself continues to lack this specificity.

Joint Intervenors maintain that the Staff Report should remind the Company of the need for reasonably-specific details of steps it will take in the first three years of an IRP planning period. Providing specific next steps importantly helps the Commission to plan and allocate its own resources. As the Commission deals with shortened statutory timelines in certain cases and no coincident expansion of resources to handle all matters before it, greater foresight into possible future filings could be especially helpful.

Transparency and detail in the IRP's "next steps" is also important to customers. Unlike most regulatory filings, the Company posts its IRPs on its customer facing website. It is intended to communicate with customers and stakeholders about where Duke is, what it is doing next, and why. The IRP is most helpful to customers if it includes plain statements of next steps.

---

<sup>23</sup> Duke Reply at 9

<sup>24</sup> *Id.* at 9-10.

<sup>25</sup> *Id.* at 10.



### **III. The 2024 IRP unreasonably skipped evaluation of economic retirement of existing units, particularly where there are long lead-times for replacements.**

Joint Intervenors' Initial Comment discusses several unreasonable constraints in the supply-side modeling methodology used to develop the IRP,<sup>26</sup> and Duke's Response addressed just one: the decision to lock-in East Bend 2 operational pathways without anywhere attempting to model an economically optimal retirement date.<sup>27</sup> As Duke sees it, not evaluating possible economic retirement timing for East Bend 2 as part of this IRP was reasonable because Duke claims an inability to bring online a new combined cycle unit as its replacement before the end of 2031.<sup>28</sup> But that proves too much.

While an IRP must result in an actionable plan that a utility provisionally expects to pursue, modeling exercises are just that—exercises that provide information. The Company can allow a resource optimization modeling run to consider unit retirement without having to commit to retire the unit on the modeled timeline. Such was the case with Duke's 2021 IRP, which identified scenarios wherein least-cost portfolios would retire East Bend 2 by 2027, but Duke did not decide to pursue retirement by 2027.

Duke points to an inability to bring a replacement online until 2032 as the justification for not allowing the model to select an economic retirement timeline. This position assumes that the outcome of such modeling would be identification of an economic retirement date earlier than 2032. Instead, if modeling indicated a post-2032 retirement date, the timeline for bringing a more economic resource online would not be an obstacle.

Furthermore, the Company's timeline estimates may change as rules change. For example, FERC recently approved PJM's proposed tariff revisions known as the Reliability

---

<sup>26</sup> JI Initial Comment, Sec. V, at 19-25.

<sup>27</sup> Duke Reply at 10.

<sup>28</sup> *Id.*

Resource Initiative, or RRI, enabling one-time reliability-based expansion of the eligibility criteria for Transition Cycle #2 of the existing interconnection queue.<sup>29</sup> As the Commission has heard from East Kentucky Power Cooperative, RRI may shorten the timelines for some new gas generation resources.<sup>30</sup> But because the Company did not use the IRP to evaluate a broader set of operational scenarios for East Bend 2, the Company will be caught flat-footed if and when circumstances change. Joint Intervenors continue to recommend that economic retirement of existing resources should be evaluated as a matter of course in IRPs, particularly where there are reasonable indicators that a unit may be approaching the end of its economically useful life.

**IV. Transmission and Distribution resources are significant cost-drivers for utility service and must be evaluated as part of long-range resource planning lest opportunities for lower-cost service may be missed.**

Joint Intervenors initial comment noted the exclusion of transmission and distribution efficiencies in the Company’s 2024 IRP, and urged that the Staff Report should “(1) recommend that future IRPs reflect meaningful evaluation of potential transmission and distribution efficiencies, and (2) clarify that the resilience and reliability of a utility’s transmission and distribution system is relevant to resource planning.”<sup>31</sup> The recommendations are consistent with the IRP regulation and past Commission statements.<sup>32</sup>

As the evidentiary hearing made plain, there was no integrated analysis of transmission and distribution efficiencies as part of this IRP process. According to Duke, only transmission

---

<sup>29</sup> Order Accepting PJM Tariff Revisions, 190 FERC 61,084, Docket No. ER-25-712-000 (Feb. 11, 2025)

<sup>30</sup> Case No. 2024-00370, *Electronic Application of East Kentucky Power Cooperative, Inc. for (1) Certificates of Public Convenience and Necessity to Construct New Generation Resources; (2) for a Site Compatibility Certificate Relating to the Same; (3) Approval of Demand Side Management Tariffs; and (4) Other General Relief*, Direct Testimony of Don Mosier at 11 (“PJM recently indicated that it intends to propose to FERC revisions to how it studies ‘surplus interconnection,’ which is an expedited study process for resources that utilize the same Capacity Injection Rights as an existing generation resource and inject power when the existing resource is not injecting. The revisions PJM is contemplating should expedite the study and connection of storage resources.”).

<sup>31</sup> JI Initial Comment, Sec. VI, at 25-29.

<sup>32</sup> 807 KAR 5:058, Sec. 8(2)(a).

related to “the provision of additional resources” is relevant to an IRP proceeding.<sup>33</sup> Joint Intervenor continue to disagree. The IRP regulation requires some analysis of transmission and distribution resource needs and options, evaluated in an integrated manner with supply-side and demand-side options. Without that analysis, least-cost planning is less likely to be achieved.

According to Duke, transmission needs and efficiencies only arise with the siting of new generation,<sup>34</sup> which occurs downstream of IRP planning once a new supply-side resource is proposed. As a result, in Duke’s view, the most an IRP can do is account for reasonable estimates of potential resource additions evaluated by the IRP. That view of transmission planning is wrong as a matter of fact and law, and not just for the reasons already stated in Joint Intervenor’s Initial Comment.

Transmission and distribution are expensive, with limiting (and enabling) implications for supply-side resources. Hence the need for integrated resource planning to seriously evaluate “improvements to and more efficient utilization of” those resources.<sup>35</sup> As the Company confirmed in post-hearing data responses, the proportion of wholesale power prices attributable to transmission expenses should generally track with PJM-wide price components.<sup>36</sup> In PJM, transmission expenses make up nearly a third of wholesale power prices, as explained by PJM’s Independent Market Monitor:

The total cost of wholesale power increased \$2.04 per MWh, or 3.8 percent, from \$53.02 per MWh in the first nine months of 2023 to \$55.06 per MWh in the first nine months of 2024. Energy (59.2 percent), capacity (6.4 percent) and transmission charges (31.5 percent) are the three largest components of the total cost of wholesale power, comprising 97.1 percent of the total cost per MWh in the first nine months of 2024. Starting in the third quarter of 2019, the cost of

---

<sup>33</sup> Duke Response to Joint Intervenor Request No. 02-012(c).

<sup>34</sup> Duke Reply at 8-9.

<sup>35</sup> 807 KAR 5:058, Section 8(2)(a).

<sup>36</sup> Duke Response to JI PH 1-5.

transmission per MWh of wholesale power has been higher than the cost of capacity.<sup>37</sup>

To the extent that energy prices in Duke's zone track the PJM-wide wholesale power price components, roughly 30% of that cost would be driven by transmission resources.<sup>38</sup> Although a more precise calculation of the balance of transmission expense baked into Duke's wholesale energy prices is possible, the Company objects to performing or providing such calculations.<sup>39</sup>

A more specific estimate has not been provided in this record, as the Company declined to report the portion of its Commission-approved revenue requirements attributable to transmission and distribution expenses, despite routinely functionalizing costs as Production, Transmission, and Distribution in cost-of-service studies.<sup>40</sup>

Despite being a significant driver of system costs, Duke does not integrate analysis of possible transmission and distribution efficiencies as part of its long-range resource planning, flouting the plain language of the IRP regulation.<sup>41</sup> Instead, transmission and distribution planning are siloed and performed on only a piecemeal basis. Duke has not identified any stage of its planning process wherein it evaluates opportunities to more efficiently move energy across its wires or minimize supply-side needs through transmission efficiencies. As one example, the Company has not performed any evaluation of potential Grid Enhancing Technologies, or GETS, seemingly because no regulator explicitly required it before, and FERC-order deadlines are a few months away.<sup>42</sup> In order to meet its obligations to pursue integrated, least-cost resource planning

---

<sup>37</sup> Quarterly State of the Market Report, Monitoring Analytics, at 6.

<sup>38</sup> Duke Response to JI PH 1-2 (confirming that transmission congestion and marginal cost loss components of locational marginal prices "can both be considered" transmission-related cost elements).

<sup>39</sup> Duke Response to JI PH 1-5(b) (explaining how calculation could be performed with access to monthly PJM settlements and monthly fuel accounting reports, but remains unknown to the Company).

<sup>40</sup> Duke Response to JI PH 1-6 (objecting to request for approximate proposition of approved revenue requirement attributable to Generation, Transmission, and Distribution costs, respectively, as "overbroad, unduly burdensome," irrelevant, not previously calculated by the Company, and publicly available in the record of Case No. 2022-00372).

<sup>41</sup> 807 KAR 5:058, Section 8(2)

<sup>42</sup> Duke Response to JI PH 1-4.

and to maintain adequate service at just and reasonable rates, the Company needs to be more proactive in evaluation of non-generation resources.

### CONCLUSION

For the foregoing reasons, Joint Intervenors reaffirm the observations and recommendations offered in Initial Comments. Duke's next IRP process would benefit greatly from efforts to integrate evaluations of possible demand-side management, supply-side alternatives, and transmission and distribution efficiencies.

*Of counsel*  
(not licensed in Kentucky):

Cassandra McCrae, Esq.  
Earthjustice  
1617 JFK Blvd., Ste. 2020  
Philadelphia, PA 19103  
(215) 671-6493  
[cmccrae@earthjustice.org](mailto:cmccrae@earthjustice.org)

Respectfully Submitted,



Byron L. Gary  
Tom FitzGerald  
Ashley Wilmes  
Kentucky Resources Council  
P.O. Box 1070  
Frankfort, Kentucky 40602  
(502) 875-2428  
Byron@kyrc.org  
FitzKRC@aol.com  
Ashley@kyrc.org

*Counsel for Joint Intervenors Kentucky Solar  
Energy Society, Kentuckians for the  
Commonwealth, and Kentucky Resources  
Council*

### CERTIFICATE OF SERVICE

In accordance with the Commission's July 22, 2021 Order in Case No. 2020-00085, *Electronic Emergency Docket Related to the Novel Coronavirus COVID-19*, this is to certify that the electronic filing was submitted to the Commission on February 20, 2025; that the documents in this electronic filing are a true representation of the materials prepared for the filing; and that the Commission has not excused any party from electronic filing procedures for this case at this time.



Byron L. Gary