

## SIERRA CLUB'S POST HEARING BRIEF

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## **I. Introduction.**

In 2024, EKPC updated its Long-Term Load Forecast and now claims new generation sources are needed to meet the forecasted load growth, improve reliability concerns in the area when certain generation is not available, and to support the addition of increased renewable energy and other issues that existing service is inadequate to provide. This slate of new generation needs is all part of EKPC's Capacity Expansion Plan. Unfortunately, EKPC has not given the Commission the opportunity to consider its overall power supply plan in totality because EKPC has broken up its requests for regulatory approval into separate proceedings.

In this proceeding, EKPC has filed an application for a Certificate of Public Convenience and Necessity ("CPCN") to construct a new 214 MW electric generation station using Reciprocating Internal Combustion Engine ("RICE") generators (the "Liberty Rice" Facility), the issuance of a Site Compatibility Certificate for the Liberty Rice Facility, approval of \$500 million in costs, and other general relief.<sup>1</sup> EKPC claims that the proposed Liberty Rice Facility is needed to improve reliability concerns in the area when generation is not available, meet the forecasted load growth, support the addition of increased renewable energy and other issues that existing service is inadequate to provide.<sup>2</sup> EKPC also claims that the Liberty Rice Facility is needed to serve the growing demand in EKPC's service territory, as demonstrated in EKPC's 2024 Long Term Load Forecast, and it will also help further economic development efforts.<sup>3</sup>

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<sup>1</sup>Application of East Kentucky Power Cooperative, Inc. for 1) A Certificate of Public Convenience and Necessity to Construct a New Generation Resource; 2) A Site Compatibility Certificate; and 3) Other General Relief (Sept. 20, 2024) ("EKPC CPCN Application") at 1, 5; Direct Testimony of Don Mosier, Case No. 2024-00310, at p. 7 (Sept. 20, 2024).

<sup>2</sup> EKPC CPCN Application at 5-6.

<sup>3</sup> *Id.* at 6.

The Commission is statutorily required to decide whether to grant the CPCN for the Liberty Rice Facility by no later than May 26, 2025.<sup>4</sup>

The Liberty Rice Facility is not the only new generation that EKPC is proposing to address this new slate of needs. EKPC has proposed to build a new 745 MW combined cycle gas plant at its Cooper Station and has a separate CPCN docket pending for approval of this generation asset.<sup>5</sup> This Cooper CPCN docket also seeks approval to retrofit Cooper Station Unit 2 and Spurlock Station Units 1-4 to allow for co-firing the units with gas.<sup>6</sup> EKPC identified nearly exactly the same “needs”—system reliability in the region, forecasted load growth, and support for increased renewable energy—to justify the Cooper Combined Cycle Plant.<sup>7</sup> The Commission is statutorily required to decide whether to grant the CPCN for the Cooper Combined Cycle Plant by no later than July 25, 2025.<sup>8</sup>

None of these new proposed generation resources were evaluated or proposed as part of EKPC’s most recent Integrated Resource Plan in 2022.<sup>9</sup> So there has been no comprehensive Integrated Resource Plan that evaluated the new projected demand growth, the prospects of additional economic development, possible changes to PJM’s capacity market, including the introduction of Effective Load Carrying Capacity (“ELCC”) considerations; recent extreme

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<sup>4</sup> K.R.S. § 278.019. May 26, 2025 is eight months from the Commission’s September 26, 2024 “no deficiency letter” noting the Commission’s acceptance of the filing of the application.

<sup>5</sup> Electronic Application of East Kentucky Power Cooperative, Inc. For 1) Certificates of Public Convenience and Necessity to Construct a 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, Case No. 2024-00370 (Nov. 20, 2024) (“EKPC Cooper Combined Cycle CPCN Application”) at 5-6.

<sup>6</sup> *Id.*

<sup>7</sup> *Id.* at 3, 7-8.

<sup>8</sup> K.R.S. § 278.019 (calculation based on eight-month period from the Commission’s November 25, 2024 “deficiency cured” letter in the docket).

<sup>9</sup> EKPC’s 2022 Integrated Resource Plan, Case No. 2022-00098, available at <https://psc.ky.gov/pscecf/2022-00098/Jessica.Fitch-Snedegar%40ekpc.coop/04012022085400/2022-00098 - REDACTED EKPC 2022 IRP.pdf>.

winter weather experiences; the potential large influx of new, and intermittent generation across Kentucky (and the PJM footprint) and its impact on dispatchable generation needs during the morning and evening peak periods.<sup>10</sup>

In other jurisdictions, when utilities have faced load growth that was not considered in its most recent Integrated Resource Plan and would require the addition of new generation assets, utilities have filed updated or supplemental Integrated Resource Plans off-cycle so that the state regulator would have the opportunity to consider the new generation plan in its totality before having to decide the reasonableness of independent pieces.<sup>11</sup>

The Cooperative has repeatedly stated that the Commission should consider the need for the Liberty Rice Units (as well as the Cooper Combined Cycle Gas Plant) as a “portion of EKPC’s overall plan for power supply.”<sup>12</sup> In fact, direct testimony from EKPC in both the Liberty Rice Facility and Cooper Combined Cycle Plant dockets both mention an “overall Strategic Plan.” For instance, in the instant case Chief Operating Officer Don Mosier responds to the question “[d]oes the addition of the proposed resource at Liberty satisfy EKPC’s long term need for new generation?”, as follows:

EKPC ... has identified the need for further additions and changes to its generation portfolio to include a significant addition of solar generation, investments in demand response and energy efficiency, new highly efficient natural gas generation and the possible co-firing of EKPC’s coal units at its Spurlock Station in Maysville, KY and Cooper’s coal units at Burnside, KY. These future additions will be complimentary to the addition of the Liberty RICE Facility and will help meet EKPC’s commitment to our Board’s Sustainability Plan

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<sup>10</sup> EKPC Application at 5 (factors listed as supporting proposed Liberty Rice Facility).

<sup>11</sup> See, e.g., Georgia Power Company’s 2023 Integrated Resource Plan Update, available at <https://psc.ga.gov/search/facts-docket/?docketId=55378>.

<sup>12</sup> East Kentucky Power Cooperative, Inc.’s Response to Attorney General’s First Request for Information, Response 9 (Nov. 12, 2024) (“AOG 1-9”).

and its overall Strategic Plan to diversify and decarbonize our generation fleet over the next decade.<sup>13</sup>

A similar question was posed to Mr. Mosier in the Cooper Combined Cycle Plant docket (“does EKPC believe that the projects proposed in this application, as well as the pending solar projects, (case no. 2024-00129) the RICE facility (case no. 2024-00310) and the forthcoming New ERA filing assist EKPC in having the ‘steel on the ground’ needed to support the needs of its owner-members and to maintain its reliability?”). Mr. Mosier responded with essentially the same answer, walking through the contributions of the Liberty Rice facility and the previous application for solar generation.<sup>14</sup>

In addition to failing to give the Commission the ability to consider the entirety of the Capacity Expansion Plan in one proceeding, EKPC has failed to provide the Commission and the Intervenor with a meaningful ability to evaluate the reasonableness of the proposed Liberty Rice Units for three main reasons. First, the Cooperative failed to meet the industry standard with the analysis that it performed to support the proposed project. Instead, EKPC used modeling that is not well suited to the task of identifying the least-cost resource to meet reliability and capacity needs and failed to produce a present value revenue requirement comparison for the two alternatives considered. Second, EKPC only produced its substantive modeling after Intervenor’s ability to submit testimony had passed, thus depriving Sierra Club, Staff, and all parties with the ability to test that modeling and present a record to the Commission regarding the flaws with EKPC’s methodology and analysis. Finally, EKPC itself has failed to provide support for a critical assumption—that the Liberty Rice Units would operate at a 73% capacity factor<sup>15</sup>—that

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<sup>13</sup> Direct Testimony of Don Mosier, Case No. 2024-00310, p. 7 (Sept. 20, 2024).

<sup>14</sup> *Id.* at 7-8.

<sup>15</sup> EKPC is going to claim that the capacity factor is not an “assumption” but rather a modeling output. The Commission should not credit this argument for several reasons. First, this was not optimization modeling of this

is solely responsible for EKPC's conclusion that the proposed Liberty Rice Units are the least-cost alternative. In fact, EKPC has failed to provide record evidence that any RICE Unit anywhere in the country operates at a capacity factor that high.

The Commission should deny the CPCN because EKPC has failed to provide sufficient evidence to justify its conclusion that the Liberty Rice Units are the least-cost and reasonable generation and failed to provide the Commission, Staff, and Intervenors with a meaningful opportunity to evaluate the proposed Liberty Rice Units.

## **II. Standard of Review.**

The legal standard for the CPCN proceeding is straightforward and has been in place since the 1950s. K.R.S. § 278.020 requires that a utility obtain a CPCN for “the construction of any plant, equipment, property, or facility” with limited exceptions.<sup>16</sup> To receive a CPCN, a utility must show (1) a need for the construction and (2) an absence of wasteful duplication.<sup>17</sup> The requirements around the obligation to establish the need for construction and an absence of wasteful duplication was first established by the Kentucky Supreme Court in its 1952 decision, *Kentucky Utilities Co. v. Public Service Commission*, in which the Court stated:

We think it is obvious that the establishment of convenience and necessity for a new service system or a new service facility requires first a showing of a substantial

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plant in the PJM marketplace or any other robust style of modeling. As discussed below, EKPC's production cost modeling simply dispatched the unit at 100% if its variable cost of production was lower than the projected PJM market price. Second, EKPC did not conduct due diligence to test the veracity of this claimed capacity factor. The fact that EKPC buried its head in the sand does not change the fact that the Cooperative is claiming that this would likely be the most heavily dispatched RICE unit in the country without a reasonable rationale for why that would happen.

<sup>16</sup> K.R.S. § 278.020(1)(a) (“No person, partnership, public or private corporation, or combination thereof shall commence providing utility service to or for the public or begin the construction of any plant, equipment, property, or facility for furnishing to the public any of the services enumerated in KRS 278.010 ... until that person has obtained from the Public Service Commission a certificate that public convenience and necessity require the service or construction.”)

<sup>17</sup> *Ky. Utils. Co. v. Pub. Serv. Comm'n*, 252 S.W. 2d 885, 890 (Ky. 1952); *In re: Elec. Application of Kentucky Power Co. for a CPCN to Rebuild the Wootton-Stinnett Portion of the Hazard-Pineville 161 KV Line in Leslie County*, Case No. 2022-00118, Final Order (Ky. P.S.C. Sept. 22, 2022) at 16-17, [https://psc.ky.gov/pscscf/2022%20Cases/2022-00118//20220922\\_PSC\\_ORDER.pdf](https://psc.ky.gov/pscscf/2022%20Cases/2022-00118//20220922_PSC_ORDER.pdf).

inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed and operated.

Second, the inadequacy must be due either to a substantial deficiency of service facilities, beyond what could be supplied by normal improvements in the ordinary course of business; or to indifference, poor management or disregard of the rights of consumers, persisting over such a period of time as to establish an inability or unwillingness to render adequate service.<sup>18</sup>

In addition to establishing a *need* for a new facility, a utility must establish “an absence of wasteful duplication resulting from the construction of the new system or facility.”<sup>19</sup> Wasteful duplication is given to include “an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties, such as right of ways, poles and wires.”<sup>20</sup>

As examples, the Court explained that:

[a]n inadequacy of service might be such as to require construction of an additional service facility to supplement an inadequate existing facility, yet the public interest would be better served by substituting one large facility, adequate to serve all the consumers, in place of the inadequate existing facility, rather than constructing a new small facility to supplement the existing small facility. A supplementary small facility might be constructed that would not create duplication from the standpoint of an excess of capacity, but would result in duplication from the standpoint of an excessive investment in relation to efficiency and a multiplicity of physical properties.<sup>21</sup>

The Court subsequently reaffirmed its definition of wasteful duplication as “embrac[ing] an excess of capacity over need, an excessive investment in relation to productivity or efficiency, or an unnecessary multiplicity of physical properties.”<sup>22</sup> In order to “demonstrate that a proposed

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<sup>18</sup> *Ky. Utils. Co. v. Pub. Serv. Comm’n*, 252 S.W.2d 885, 890 (Ky. 1952).

<sup>19</sup> *Id.*

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

<sup>21</sup> *Id.*

<sup>22</sup> *Ky. Utils. Co. v. Pub. Serv. Comm’n*, 390 S.W.2d 168, 173 (Ky. 1965).

facility does not result in wasteful duplication,” a utility must show that it has undertaken a “thorough review of all alternatives.”<sup>23</sup>

Finally, Parties appearing before an administrative commission “are entitled to procedural due process.”<sup>24</sup> This requires that a party be granted “sufficient notice and opportunity to make his defense.”<sup>25</sup> Due process is violated where a party is not given the chance to test, explain, or refute evidence considered by the fact-finder.<sup>26</sup>

### **III. EKPC Deprived the Commission, Staff and Intervenors of an Opportunity to Test Its Evidence Regarding the Reasonableness of the Liberty Rice Units Because the Cooperative Did Not Produce Its Modeling or Economic Analysis Until After the Opportunity for Intervenor Testimony had Passed.**

The heart of any analysis to support the construction of new generation is the modeling done by the utility to support its application. This modeling usually compares the utility’s proposed project to a slate of alternatives under a few different scenarios or sensitivities. That is why multiple parties’ initial Requests for Information sought the modeling performed by EKPC to support the proposed Liberty Rice Units. For instance, on October 28, 2024, Sierra Club’s Request for Information 1-3 stated, “[p]lease provide supporting workpapers and modeling files, including (not limited to) all input files, output files, and pre- or post-processing of said inputs and outputs for all portfolios and scenarios for all years modeled, in electronic spreadsheet format with formulas intact, supporting each of the statements, testimonies, exhibits, and attachments included in the Cooperative’s initial filing and direct testimonies.”<sup>27</sup> In addition,

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<sup>23</sup> *In re Application of Big Rivers Electric Corporation for Approval of its 2012 Environmental Compliance Plan*, Case No. 2012-00063, Final Order, pp. 14-15 (Ky. P.S.C. Oct. 1, 2012).

<sup>24</sup> *See Am. Beauty Homes Corp. v. Louisville & Jefferson Co. Planning & Zoning Comm’n*, 379 S.W.2d 450, 456 (Ky. 1964).

<sup>25</sup> *Somsen v. Sanitation Dist. of Jefferson Co.*, 197 S.W.2d 410, 411 (Ky. 1946).

<sup>26</sup> *See, e.g., Util. Reg. Comm’n v. Ky. Water Serv. Co.*, 642 S.W.2d 591 (1982); *Ohio Bell Telephone Co. v. Pub. Utils. Comm’n of Ohio*, 301 U.S. 292 (1937).

<sup>27</sup> Sierra Club’s Initial Requests for Information to East Kentucky Power Cooperative, Inc., 1-3.

Sierra Club’s Request for Information 1-16 stated, “[p]lease explain what modeling was conducted to develop the EKPC Capacity Expansion Plan,” and then asked for the name of model and all input and output files, among other information about the model.<sup>28</sup>

Sierra Club was not alone in seeking this information. Staff also requested EKPC’s modeling. In Staff’s Information Request 1-6, Staff requested that EKPC “[p]rovide the resource selection and resource optimization analyses complete with a detailed explanation of all the assumptions (including Environmental Protection Agency (EPA) and PJM related assumptions), and all potential resource (including power purchase agreements (PPAs) fixed and variable cost data used [to] determine the specific resources selected and the timing of new resource implementation represented in Exhibit JJT-3.”<sup>29</sup> The Attorney General also sought EKPC’s substantive analysis of the proposed Liberty Rice Units, requesting “copies of all workpapers supporting calculations at issue in this proceeding.”<sup>30</sup>

Despite the numerous requests for EKPC’s modeling and workpapers from as early as October 2024, EKPC did not produce its modeling until approximately 10:30 p.m., on Friday, February 14, 2025. Specifically, EKPC supplemented its response to Sierra Club Information Request 1-16 and produced two confidential spreadsheets which are modeling input and output files that were created in May 2024.<sup>31</sup> These modeling files were produced after pre-hearing discovery in this matter closed on February 6, 2025,<sup>32</sup> and after the January 6, 2025 deadline for Intervenor to submit direct testimony.<sup>33</sup> The modeling files were produced only after a Sierra

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<sup>28</sup> Sierra Club’s Initial Requests for Information to East Kentucky Power Cooperative, Inc., 1-16.

<sup>29</sup> Staff’s Initial Requests for Information to East Kentucky Power Cooperative, Inc., 1-6.

<sup>30</sup> Attorney General’s Initial Requests for Information to East Kentucky Power Cooperative, Inc, 1-1.

<sup>31</sup> EKPC’s Supplemental Response to Sierra Club’s First Set of Information Requests (Feb. 14, 2025).

<sup>32</sup> Order in Case No. 2024-00310 (Jan. 16, 2025).

<sup>33</sup> Order in Case No. 2024-00310 (Oct. 9, 2024).

Club attorney found a reference to modeling of the Liberty Rice Units in an EKPC response to discovery in Case No. 2024-00370 and contacted counsel for EKPC.<sup>34</sup>

These produced modeling files were an essential prerequisite to test EKPC's claim that the proposed Liberty Rice Units were needed and did not represent wasteful duplication. This production cost modeling was the only modeling performed by EKPC. It did not perform any other modeling, such as optimization modeling or capacity expansion modeling.<sup>35</sup> EKPC also did not provide a net present value revenue requirement (often referred to as "PVRP") for the proposed Liberty Rice Units or any other alternatives.<sup>36</sup> EKPC's analysis and support for the proposed Liberty Rice Units thus hinges on this production cost modeling.

Production cost modeling is a simulation technique used to determine the least-cost dispatch of generation resources by analyzing a grid's hourly operation, considering various constraints and uncertainties to optimize resource utilization and minimize production costs. The constraints utilized by EKPC were "the modeled heat rates, fuel costs, and market prices."<sup>37</sup> The main output from the production cost model that supports EKPC's proposal is the Liberty Rice Units' capacity factor.<sup>38</sup> On March 14, 2025, just one business day before the March 17 hearing, EKPC supplemented its response to discovery that Sierra Club posed in October 2024. In that response, EKPC stated, "[t]he production cost model is meant to show a resource's economic position based on variable energy costs as compared to market pricing. In the model, as long as the hourly forward market price is greater than the variable energy cost, then the unit was

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<sup>34</sup> Sierra Club's Emergency Motion for Leave to Submit Supplemental Requests for Information and the Option to Submit Direct Testimony at 4 (Mar. 4, 2025).

<sup>35</sup> Hearing Testimony of Julia Tucker, Hearing Video Transcript, March 18, 2025 Hearing at 1:52:27.

<sup>36</sup> Hearing Testimony of Julia Tucker, Hearing Video Transcript, March 18, 2025 Hearing at 1:53:12.

<sup>37</sup> EKPC Response to Sierra Club's Post-Hearing Requests for Information 4-2.

<sup>38</sup> *Id.*

dispatched within the model for that hour.”<sup>39</sup> This means that so long as the fuel price was less than the market price, the Liberty Rice Units were dispatched at 100% capacity in the model with no ramping.<sup>40</sup> As EKPC confirmed in its March 14 supplemental discovery response: “Actual PJM unit dispatch is reliability constrained, meaning PJM assesses not only the cost of a unit, but also the impact to transmission congestion within the market by dispatching the unit. EKPC cannot reasonably model congestion impacts within a production cost model. All implied congestion is factored into the market forwards.”<sup>41</sup> The production cost model found that the Liberty Rice Units would have a 73% capacity factor. Sierra Club will discuss the reasonableness of this output in Section IV., below.

EKPC only considered one alternative to the Liberty Rice Units—combustion turbine units. But EKPC only compared the cost of the Liberty Rice Units to combustion turbines after it submitted its CPCN Application and after the opportunity for Intervenors to present expert testimony in this docket. EKPC did not actually do an economic analysis comparing the costs of the two alternatives until February 2025. It was not until February 19, 2025, that EKPC actually completed a spreadsheet analysis that compared the costs of the RICE Units to the costs of combustion turbines.<sup>42</sup> As EKPC Witness Julia Tucker stated at the hearing, EKPC prepared this spreadsheet analysis to respond to a Staff request that arose during the informal conference and

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<sup>39</sup> EKPC’s Supplemental Response to Sierra Club’s Initial Requests for Information 1-16, Supplemental Response 1(b) (Mar. 14, 2025).

<sup>40</sup> Hearing Testimony of Julia Tucker, Hearing Video Transcript, March 18, 2025 Hearing at 2:49:18 to 2:51:51.

<sup>41</sup> EKPC’s Supplemental Response to Sierra Club’s Initial Requests for Information 1-16, Supplemental Response 1(b) (Mar. 14, 2025).

<sup>42</sup> EKPC Response to Sierra Club’s Post Hearing Requests for Information 4-1 (confirming that EKPC’s Excel spreadsheet, labelled “JI3.5 RICE-CT-Economic Analysis.xlsx,” was completed on February 19, 2025). The spreadsheet was filed in the record on February 20, 2025 in response to Joint Intervenors’ Requests for Information 3-5.

provided it to Parties through its response to JI-DR 3-5.<sup>43</sup> The Excel spreadsheet that was lodged in the record on February 20, 2025 in response to JI-DR 3-5 is the only economic analysis that purportedly justifies EKPC's selection of the Liberty Rice Units. The Commission should be extremely alarmed that EKPC did not even compare the costs of Liberty Rice Units to the only considered alternative until after it sought approval to construct that generation and after the opportunity for Intervenors to submit testimony had closed.

EKPC's recalcitrance in producing requested and critical analytical documents to all parties of this proceeding should concern the Commission, as Sierra Club (and other parties to this proceeding) is "entitled to procedural due process."<sup>44</sup> Due process is violated where a party is not given the chance to test, explain, or refute evidence considered by the fact-finder. More importantly, the Commission and its Staff's ability to actually evaluate EKPC's, or any utility's, request for a CPCN is only possible if the utility produces relevant information in a timely fashion such that the Staff and other Intervenors can retain experts to evaluate the information and provide testimony that tests and/or refutes elements of the produced information.

The solution is not to hope that in the future EKPC will produce its modeling and disclose its substantive analysis in a timely fashion when requested by multiple parties so the Commission and other parties have the chance to test, explain, or refute evidence presented by the Cooperative, but to hold EKPC responsible for that failure in this proceeding. If the Commission does not hold EKPC responsible for this glaring failure, it will create a slippery slope that will only incentivize EKPC and other utilities to withhold relevant information until it

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<sup>43</sup> Hearing Testimony of Julia Tucker, Hearing Video Transcript, March 18, 2025 Hearing at 2:34:36.

<sup>44</sup> See *Am. Beauty Homes Corp.*, 379 S.W.2d at 456.

is too late for the Commission's Staff and Intervenors to adequately test that evidence. Moreover, it would create appealable issues that will throw the certainty of its decision into jeopardy.

#### **IV. EKPC's Economic Analysis Relies on an Unproven Capacity Factor.**

EKPC's entire economic support for the Liberty Rice Units is based on the astonishing claim that the Liberty Rice Units will operate 6,426 hours per year and have a 73% capacity factor. It is at this level of operation that the Liberty Rice Units are found to be a lower-cost option than the combustion turbines. But EKPC has not adequately demonstrated the reasonableness of this figure.

EKPC arrived at this supposed operation level of 73% capacity factor through its production cost modeling, which found that if "the hourly forward market price is greater than the variable energy cost, then the unit was dispatched within the model for that hour."<sup>45</sup> This means that if the fuel cost was lower than the locational marginal price, the model assumed that the Liberty Rice Units were dispatched at 100% with no ramping or market congestion impacts.

EKPC did not conduct due diligence to test the reasonableness of this assumption. For instance, EKPC did not look at the operation statistics for other RICE units.<sup>46</sup> Sierra Club asked EKPC to provide capacity factors at other Burns and MacDonald RICE units and EKPC refused to answer the question.<sup>47</sup> Sierra Club also sought capacity factors for other Wartsila units, which again EKPC declined to answer.<sup>48</sup> This willful ignorance is shocking given that EKPC was willing to provide information from Burns and MacDonald and Wartsila on other issues that are

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<sup>45</sup> EKPC Supplemental Response to Sierra Club's Requests for Information 1-16, Supplemental Response 1(b) (Mar. 14, 2025).

<sup>46</sup> EKPC Responses to Sierra Club's Requests for Information 2-7.c. and 3-2.f.

<sup>47</sup> EKPC Response to Sierra Club's Post-Hearing Requests for Information 4-3.b. Burns and MacDonald is the engineering firm EKPC retained to work on the proposed Liberty Rice units.

<sup>48</sup> EKPC Response to Sierra Club's Post-Hearing Request for Information 4-3.c. Wartsila is the manufacturer of the proposed Liberty Rice units.

not outcome determinative inputs, such as the location of other RICE units and noise impact studies.<sup>49</sup> EKPC has submitted no evidence that any RICE unit anywhere in the country (or world) has actually achieved a comparable capacity factor.<sup>50</sup> Simply put, EKPC has not built a record of evidence to demonstrate that a 73% capacity factor is reasonable.

EKPC's failure to prove that the reasonableness of this assumption is a fatal flaw because this assumed capacity factor is what drives EKPC's conclusion that the Liberty Rice Units are lower cost than the combustion turbines. The Excel spreadsheet titled "JI3.5 RICE-CT-Economic Analysis.xlsx," which was attached to EKPC's February 20, 2025 Response to Joint Intervenor's request for information 3-5, is the economic analysis performed by EKPC to find that the Liberty Rice Units were lower cost than the combustion turbines. Capacity factor is one of the inputs into EKPC's economic analysis spreadsheet ("JI3.5 RICE-CT-Economic Analysis.xlsx"). If the Liberty Rice Units capacity factor was less than assumed, it logically means that economics of the units would go down. That is because the cost per MWh for the Liberty Rice Units (or any generation) is just the total cost divided by the amount of energy. If the Liberty Rice Units operated less, the fuel costs (one of the model inputs) would go down but the fixed capital costs and fixed O&M costs (other model inputs) would remain the same. Since the numerator is reduced by a smaller amount proportionally than the denominator (which is reduced by a greater amount as it is proportional to the reduction in fuel), then the cost per MWh would go up.

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<sup>49</sup> EKPC Responses to Staff's Post Hearing Requests for Information 1 through 3.

<sup>50</sup> EKPC did not produce the production cost modeling that included this 73% capacity factor output until after the opportunity for intervenor testimony had closed. Sierra Club attempted to introduce an exhibit during cross examination of EKPC witness Tucker that no RICE unit in the country operates at this high a capacity factor. Witness Tucker claimed that she did not use or review the information from the EIA, so Sierra Club was not able to lay a foundation to get this exhibit into the record. Sierra Club followed up with a post-hearing data request asking EKPC to provide the capacity factors of other RICE units operating in the U.S., based on publicly available data from the U.S. Energy Information Administration. Sierra Club provided detailed directions about how to easily obtain that information in 20 minutes through the U.S. Energy Information Administration. EKPC refused to produce the information.

As EKPC Witness Tucker explained in her testimony, because “RICE engines have a higher expected annual fixed cost than the combustion turbine,” but lower operation and maintenance costs, “[i]t takes a run time of over 6,000 hours to equalize the total cost between the two technologies.”<sup>51</sup> Thus, under EKPC’s calculations, constructing the Liberty Rice Units instead of combustion turbine gas units only makes economic sense if the Liberty Rice Units operate at or above a 68 percent capacity factor.<sup>52</sup> But EKPC has not presented record evidence that any other RICE unit, including those manufactured by Wartsila or engineered by Burns and MacDonald, have operated at such a high capacity factor. This failure, and EKPC’s refusal to engage in the most basic due diligence to test the reasonableness of such a determinative economic factor dramatically undercuts the notion that it has presented to the Commission the “thorough review of all alternatives” that is necessary to “demonstrate that a proposed facility does not result in wasteful duplication.”<sup>53</sup>

## **V. Conclusion.**

In this docket, EKPC seeks authorization to invest \$500 million to build new generation capacity in the form of the proposed 214 MW Liberty Rice Units. While EKPC has demonstrated that it is prudent to invest in new generation to meet a growing winter peak demand, on the record it has created here, EKPC has failed to satisfy its obligation to demonstrate an avoidance of wasteful duplication. First, although premised on meeting the same identified demand, EKPC has cabined its planning process for new generation into distinct silos, with separate CPCN

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<sup>51</sup> Case No. 2024-00310, Direct Testimony of Julia Tucker, p. 23.

<sup>52</sup> 6,000 hours of operation / 8,760 hours per year = .6849 capacity factor.

<sup>53</sup> *In re Application of Big Rivers Electric Corporation for Approval of its 2012 Environmental Compliance Plan*, Case No. 2012-00063, Final Order, pp. 14-15 (Ky. P.S.C. Oct. 1, 2012).

dockets for the proposed Liberty Rice Units and the proposed 745 MW combined cycle plant at the Cooper Station, Case No. 2024-00370.

Second, EKPC has failed to show that the Liberty Rice Units proposed here are the lowest cost option for ratepayers. EKPC's initial offer of proof included a Capacity Expansion Plan showing the size and type of generation it planned to construct in the coming years, but did not include any modeling comparing the cost to ratepayers of constructing the Liberty Rice Units with other available alternatives, such as combustion gas turbines. EKPC compounded this failure by refusing to turn over its production cost modeling, or even acknowledge its existence, when asked for this information by Commission Staff, the Attorney General's Office, and Sierra Club in initial requests for information filed in October 2024. It wasn't until Sierra Club's counsel found reference to such modeling in Case No. 2024-00370 that EKPC disclosed the existence of the modeling and relevant files in February 2025. By that point, the opportunity for Commission Staff and other Intervenors to test this modeling with their own experts had passed, having closed on January 6, 2025. Similarly, by the time EKPC finally prepared an Excel spreadsheet (JI3.5 RICE-CT-Economic Analysis.xlsx) comparing the cost of the Liberty Rice Units to combustion turbines – finalized February 19, 2025 – Commission Staff and Sierra Club had no opportunity to test the analysis with their own experts. That economic analysis hinges on a highly favorable capacity factor (73%) that EKPC has steadfastly refused to ground-truth – there is no record evidence that any other RICE unit in the entire country has achieved a capacity factor that high.

Sierra Club recognizes EKPC's obligation to serve its members and provide reliable electricity generation. But EKPC also has an obligation to demonstrate that its proposals for new generation do not result in wasteful duplication. The record created by EKPC in this instance,

and the manner in which its analysis was disclosed to the Commission, Staff, and Intervenors, does not meet that obligation. The Commission should not incent EKPC and other utilities to engage in the sort of sandbagging drip of information that precludes the meaningful participation of other parties by eroding the opportunity to adequately evaluate EKPC's evidence and offer counter evidence where appropriate.

For the reasons set out above, Sierra Club respectfully requests the Commission deny EKPC's proposed CPCN.

Dated: April 11, 2025

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

This is to certify that the foregoing copy of Sierra Club's Post-Hearing Brief in this action is being electronically transmitted to the Commission on April 11, 2025, and that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding.

/s/ Joe F. Childers  
JOE F. CHILDERS