BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of an Investigation of Missouri Jurisdictional Generator Self-Commitments into SPP and MISO Day-Ahead Energy Markets	)))	File No. EW-2019-0370

Sierra Club's Comments on July 8, 2019 Informational Submissions

Sierra Club respectfully submits the following comments in response to the filings made on July 8, 2019 by Union Electric Company d/b/a Ameren Missouri ("Ameren"),[1] Kansas City Power & Light Company ("KCP&L") and KCP&L Greater Missouri Operations Company ("GMO") (collectively, "KCP&L"),[2] and Empire District Electric Company ("Empire").[3] Those filings partially respond to the questions posed by the Commission in its order initiating this docket.[4]

In this proceeding, the Commission seeks to investigate both the self-commitment and self-scheduling practices of Missouri's regulated investor-owned utilities ("IOUs") "to determine if such practices inure to the benefit of their ratepayers."[5] As explained in our initial comments, the Sierra Club agrees that this is a critical subject for the Commission to examine. Unfortunately, the initial responses by the Missouri IOUs do not provide the information that the Commission needs to fully investigate this issue, as described below.

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[1] Ameren Missouri's Response To Order Opening An Investigation Of Missouri Jurisdictional Generator Self-Commitments And Self Scheduling And To Order Directing Comments, File No. EW-2019-0370, July 8, 2019 ("Ameren Response").
[2] Kansas City Power & Light Company And KCP&L Greater Missouri Operations Company Response To Commission Questions, File No. EW-2019-0370, July 8, 2019 ("KCP&L Response").
[3] Response to Commission Order, Case No. EW-2019-0370, July 8, 2019 ("Empire Response").
[4] Order Opening an Investigation of Missouri Jurisdictional Generator Self-Commitments And Self-Scheduling ("Initial Order"), File No. EW-2019-0370, issued June 5, 2019.
[5] *Id.* at 1-2.

As an initial matter, a robust and meaningful stakeholder engagement requires transparency and the free flow of information betwen the regulated utilities, the Commission, and other stakeholder participants. As explained in Sierra Club's initial comments, to evaluate the impact of out-of-merit generation on ratepayers and the prudence of utility self-commitment behavior, it is critical that the IOUs disclose basic historical production cost and revenue data and describe their process for determining whether a unit will self-commit.[6] That data and the utilities' methodologies should be spelled out and presented as early and clearly as possible. The regulated utilities, however, have refused to disclose much of that information, as described below. Alternatively, the utilities have submitted certain information to Commission Staff but not filed it in the proceeding.[7] The lack of information deprives both the Commission and stakeholders of the opportunity to provide meaningful feedback or "ground truth" the respective utilities' conclusory assertions about the benefits or justifications for self-commitment behavior.

While the information provided by the utilities in this docket begins to shed light on an otherwise opaque set of practices, there is far more information that the Commission needs to gather in order to fulfill the purpose of this investigation.

A. General Comments

As a general matter, it is of concern that the utilities did not consistently respond to Staff's request to "provide the economic impact of [self-committing instead of bidding into a given

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[6] Contrary to the utilities' joint response to Sierra Club's June 28, 2019 comments, Sierra Club's suggestion regarding additional information that the Commission ought to seek from the Commission was not outside the appropriate scope of comments sought by the Commission. Joint Response To Sierra Club's Initial Comments, File No. EW-2019-0370, July 17, 2019. Sierra Club's comments were intended to assist the Commission in its investigation by noting the additional information that the Commission might find helpful, which is based on Sierra Club's experience evaluating self-scheduling and self-commit issues.

[7] Joint Response To Sierra Club's Initial Comments, File No. EW-2019-0370, July 17, 2019; Response To Commission Order, Case No. EW-2019-0370, July 8, 2019.

market]." Ameren provided no assessment of the impact of self-commitment, KCP&L elected to only report the **[redacted]** and Empire provided a **[redacted]** presumably during self-commitment hours. Neither KCP&L nor Empire provided an explanation for the data in their confidential workbooks. The inconsistent reporting makes it difficult to review the impact of self-commitment on ratepayers, or if the utilities' management of the units is reasonable and prudent. For example, while both Empire and KCP&L (co-owners of Iatan) report a consistent number of megawatt-hours self-committed from 2016 to 2019 (proportional by shared ownership fraction), the two utilities disagree on the impact of the decision to self-commit. KCP&L reports **[redacted]** In contrast, Empire reports a **[redacted]** It is unclear if the discrepancy is differential production costs between the utilities (or perception of appropriate costs to include in production cost), aggregation of market energy prices, or an inconsistent reporting metric.

One of the most problematic elements of the reporting in this investigation is the likely different interpretation of production cost used by the different utilities, and the lack of consistent or clear reporting. Utilities and stakeholders appear to agree that, as a general matter, when production costs are higher than market costs, a power plant forgoes the opportunity cost to buy market power at a lower cost than production. The key question raised by the utilities in this docket is whether there are circumstances in which producing above market prices is appropriate. Whether self-commitment is economic is strongly dependent on which costs are considered variable for the purposes of production cost. Since some costs may be considered ambiguous, such as fixed coal contract prices or some operations and maintenance costs, it is important to ensure that production costs are appropriately characterized (notably absent from this assessment is any accounting for fixed costs). For example, it is possible that fuel supplies at the utilities are procured under various forms of fixed "take-or-pay" contracts; Empire identifies **[redacted]** Different utilities have historically characterized these fuel contracts as fixed costs or variable production costs. And while there are appropriate mechanisms for the correct characterization of such contracts under different circumstances, the utilities did not provide enough information to understand how these contracts are characterized or incorporated into production cost.

B. Comments on Specific Utility Filings

1. Ameren Response

Ameren does not submit sufficient evidence to allow the Commission to understand whether its self-commit and self-dispatch practices have inured to the benefit of customers. Ameren's case for self-commitment relies in part upon avoiding risks such as "increased forced outages, component failure, and shortened component life."[8] Yet Ameren then states that "[i]t is not possible to know what the[se] . . . expenses would have been, but for Ameren Missouri's utilization of the must run commitment status, or in the case of the non-coal baseload units, what the margin would have been but for that status."[9] Ameren's case for self-commitment seems to rely in large part upon avoiding cycling costs that Ameren either does not know, or is unwilling to share with the Commission. The Commission should require Ameren to state its basis for estimating these avoided costs as part of Ameren's pursuit of its "guiding principle . . . to clear

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[8] Ameren Response at 8.
[9] *Id*.

(i.e., sell energy from) its units in the market when doing so benefits customers."[10] The scale and certainty of these avoided or deferred costs is critical information to inform the Commission if Ameren's strategy of avoiding cycling is economically efficient. In particular, if market revenues are not able to cover the costs of self-committed portion of a unit, the Company's entire justification for retaining a unit online rests on avoiding these cycling costs, which are not disclosed and at least according to Ameren, unknown.

Ameren's public data submission implies that the "must-run" portion of its self-committed units (i.e. running at the "unit's minimum"[11]) have production costs below locational marginal price ("LMP") over the three most recent years.[12] However, the mechanism used by Ameren to assess that benefit is not disclosed, and thus not possible to ascertain from these data the basis upon which Ameren stakes this claim. However, Ameren's record calls for closer scrutiny. For example, Ameren's file implies that Sioux plant cleared nearly $13 million in "must run net ($)" in the last six months of 2016.[13] If that were the case, then Ameren's total net energy revenues for Sioux were substantially above that level, since Ameren asserts that its units were otherwise economically dispatched by MISO most days of the year.[14] However, a basic comparison of Sioux's fuel costs and LMP to approximate total net energy revenues the units would have received (not just revenues for the must-take portion) falls far short of that number. In 2016, Sioux's fuel cost alone was $22.8/MWh,[15] but the median LMP at Sioux's MISO hub in

[10] *Id.*
[11] Ameren Response at 2.
[12] Assessed through the positive valuations in columns "Must Run Net ($)" for Labadie, Meramec, Osage, Rush Island, and Sioux in Ameren's public data response.
[13] *See* Ameren July 8, 2019 Data Submission, Sum of cells FF5:FF11 in tab 4-6 MR-SS.
[14] Ameren Response at 5.
[15] The weighted average cost of coal delivered to Sioux in 2016 was $1.98/MMBtu (EIA Form 923, Fuel Receipts) and Sioux has a heat rate of 11.52 MMBtu/MWh (EIA Form 923, Generation and Fuel Data).

those first six months was only $24.8/MWh.[16] In fact, Sioux's fuel cost alone was higher than market prices in nearly 40 percent of all hours.[17] To make the total net energy market revenues implied by Ameren's response, Sioux would have had to nearly perfectly dispatch in those hours (i.e., fully operate in each profitable hour, and cease dispatch in each low-cost hour). It did not. In the first six months of 2016, Sioux 1 cycled only seven times, and Sioux 2 cycled only ten times,[18] and incurred substantial negative net energy revenues for extended periods of time. Instead, we estimate that the two Sioux units cleared barely $8.8 million in total net energy revenues (relative to fuel costs) –i.e., based on its full operation level, not just the self-committed portion.[19]

Notably, this estimate does not include variable operations and maintenance ("VOM") costs. Using a rough VOM of $3/MWh,[20] those net revenues are eroded to less than $2 million. Neither value is anywhere close to Ameren's estimated $13 million for self-commit hours alone. It is incumbent on Ameren and the other utilities to more fully explain their method of calculating net market revenues for self-commit hours and demonstrate that these units operate in the best interests of customers.

This assessment also calls into question Ameren's blanket statement that "given the low cost of Ameren Missouri's baseload and hydroelectric units, these units clear in the MISO day-

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[16] Sioux hourly LMP prices June 2016-December 2016 retrieved from MISO via S&P Global database.
[17] *Id.*
[18] Hourly generation in 2016 derived from EPA Air Markets Program Data (AMPD) from Continuous Emissions Monitoring System (CEMS) data.
[19] Derived as the sum product of all generating hours in the second half of 2016 (EPA AMPD) and net market revenues at the Sioux hub (LMP less fuel cost). Estimates based on gross generation, rather than net generation, which would further erode revenues.
[20] *See* Assumptions to Annual Energy Outlook 2015 at Table 8.2. https://www.eia.gov/outlooks/aeo/assumptions/pdf/0554(2015).pdf (note: EIA AEO 2015 is the most recent assessment with the cost of non-carbon capture coal plants assessed).

ahead market most days of the year, and this would be true regardless of whether they are offered with a must run or economic commit status."[21] If Ameren were bidding its full production cost, it is likely that there would be substantial periods of time in which units such as Sioux would not be called economically. Ameren's confidence that its units would be called economically by MISO is cast into doubt by the fact that more than 58% of the Company's generation in this assessment period was self-committed.[22]

Ameren also explains that it will self-commit a unit based on its assessment that energy prices beyond the next 24-hour period will be sufficient to help recover the shortfall from operating at a loss in the immediate term.[23] The outer limit on the timeframe for Ameren's energy price forecasting is unstated, which sets up a situation in which the Company could continue to operate its units at a loss, with the hope that prices will soon increase, because turning them off would risk incurring even larger losses due to potential problems upon restart.

Finally, Ameren states that it "does not generally use the self-scheduled dispatch status for energy," which suggests that it does at times self-schedule the dispatch of its units, a suggestion borne out by the limited data provided by Ameren. If that is the case, Ameren should explain under what circumstances it does use the self-scheduled dispatch status, how it ensures that this practice inures to the benefit of ratepayers, and provide data that confirm the prudence of its self-scheduling dispatch practices.

2. **Kansas City Power & Light Response**

KCP&L explains that it "has worked to increase the percentage of time its power plants are market-scheduled," but that some self-scheduling is nevertheless warranted for "safety,

[21] Ameren Response at 5.
[22] *See* Ameren Data Response, Tab 4-6 MR-SS, Total System Grand Totals (73.6 million MWhs self-committed versus 53.4 million MWhs market selected).
[23] Ameren Response at 5.

reliability, economic and environmental compliance reasons."[24] While some of KCP&L's explanations may have a degree of validity, the Company has not provided enough information to evaluate whether those justifications are reasonable when invoked in particular instances, nor explained how it ensures that decisions to self-schedule benefit its ratepayers.

For example, although KCP&L invokes "reliability" as a reason for self-scheduling, it is not referring to overall system reliability. SPP offers a designated reliability commitment status that KCP&L may select that enables SPP to commit the utility's coal units if they are needed for reliability purposes. Instead, KCP&L is talking about the ability of its plants to perform under routine winter conditions, noting that "cold weather can cause reliability issues in a steam-fired power plant due to water lines freezing, oil systems becoming too cold and even coal freezing."[25] However, KCP&L has failed to provide any documentary support for its assertions that self-commitment is necessary to maintain the reliability of its *own* equipment, let alone whether its self-commitment decisions actually improve reliability or result in any quantifiable benefit. For example, KCP&L does not address whether other winterization steps could improve plant performance, and avoid any costs associated with self-commitment. Nor does KCP&L establish that SPP could not maintain system reliability if KCP&L's units were unable to turn on, which is a critical link in the assertion that KCP&L's self-commitment practices are necessary for reliability from the customer's perspective.

Relatedly, KCP&L asserts that "[m]anaging the number of thermal cycles judicially [sic] will protect equipment thus reducing forced outages and unreliable starts due to the complexity of these large stations, all of which is a benefit to the retail customer."[26] KCP&L provides no

[24] KCP&L Response at 3.
[25] *Id.*
[26] *Id.*

analysis of how it determines that the customer has benefited, such as quantification of avoided costs associated with thermal cycling, and a balancing of those costs against losses incurred when self-committed units have production costs in excess of LMP. KCP&L's explanation of its practice does not show that its practice inures to the benefit of ratepayers.

KPC&L also suggests that short-term operational losses may be justified by longer-term gains.[27] But again, the Company fails to provide any analysis or documentation to support that explanation. In fact, unlike Ameren and Empire, KCP&L fails to respond to staff's request that the IOU's "provide the economic impact of [self-committing instead of bidding into a given market],"[28] only ** [redacted] **[29] rather than the net impact.[30] And a review of KCP&L's provided data suggests that a number of its plants had ** [redacted] **

So while it may be true that in some instances, coal plant ramping and cycling constraints may justify self-committing a coal unit and incurring net losses during lower-demand, lower-priced

[27] *Id.* at 3-4.

[28] Staff Request for Comments. June 21, 2019.

[29] Confidential submission from KCP&L 2019-07-08 – kcpl – mpsc unit data summary_conf.xlsb

[30] Deriving net impact of self-commitment decisions from the data provided by KCP&L is not trivial. KCP&L provides ** [redacted] **

Assuming that market price for self-committed hours and production cost for self-committed hours both reflect weighted averages for operational MWh. Derived by taking difference between market price and production cost, and multiplying by market committed energy.

hours to ensure that the unit is online during higher-priced peak hours, the Company has not demonstrated that the strategy resulted in a net ratepayer gain. This strategy only makes economic sense if the gains during the high-priced hours outweigh the losses during lower-priced hours such that the unit produces positive net operational revenues on a daily or weekly basis. Without more substantial analytical support, however, that rationale cannot reasonably justify the continued self-commitment of a unit that incurs net operational losses over the course of a full month or longer. Although KCP&L acknowledges that it self-commits its units more than 50% of the year, it does not provide sufficient data to test the reasonableness of its purported operational strategy.[32] In fact, the thin information provided by the Companies provides little comfort that the plants made any positive margins when taking into account total production costs against market revenues, and no evidence that the plants made positive relative margins when taking into account the substantial fixed costs of operation.

KCP&L suggests that it is not possible for the utility to understand the "economic impact of a self-commit decision" because to do so "requires a wide area view model that can calculate the impacts of that self-commit decision on other generators, TCR's, load, LMP's, etc. in the SPP footprint. *KCP&L does not have the ability to model those interdependencies.*"[33] Instead, KCP&L advances a back-of-the-envelope assessment of its self-commit decisions comparing average production costs and average annual or monthly prevailing market prices for energy. Such a comparison tells only part of the story. Self- or market-commitment status is based on the utility's determination of whether a unit will operate in a *given hour*, not for a month at a time.[34] So, as a practical matter, KCP&L can and should present the Commission with a comparison of

[32] KCP&L Response at 5.
[33] *Id.* at 4 (emphasis added).
[34] SPP, Market Protocols SPP Integrated Marketplace: Revision 67 at 31, 51 (Apr. 2019).

average annual per-MWh production costs at each unit against *hourly* LMP, which would provide better insight into whether decisions to operate on an hourly, daily, or even weekly basis are prudent. Indeed, the utility's goal in operating a coal unit should not be to break even or earn net revenue over a given month or year, but to maximize net operational revenues when the market permits, so as to offset fixed costs and reduce ratepayer bills. Although several KCP&L units appear to earn positive annual or monthly net operational revenues, the failure to disclose hourly or daily market prices prevents the Commission from determining what the net operational revenues would have been if the units had only been operated during hours and days when they out-perform the market.

This is also important because, as the SPP Market Monitoring Unit ("MMU") has repeatedly recognized, self-commitment undermines the integrity of the SPP market—*i.e.*, "it does not allow the market software to determine the most economic market solution."[35] Reducing self-commitment "will enhance market efficiency and improve price signals,"[36] thereby reducing costs for Missouri customers.

KCP&L reports that it has made efforts to increase the market commitment of its fleet, and that in the most recent years, its fleet was market committed just under 50% of the time. KCP&L does not explain why it believes that increasing market commitment of its units is commendable, in light of its defenses of its self-commitment practices as benefiting ratepayers. Further explanation is needed for Staff and the Commission to fully evaluate the prudence of KCP&L's self-commitment practices.

Finally, we note that KCP&L does not explain whether and under what circumstances it self-schedules or self-dispatches its units, as opposed to self-committing them. The

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[35] SPP Market Monitoring Unit, State of the Market 2018 at 5 (May 2019).
[36] *Id.* at 13.

Commission's order clearly inquired into both practices, but KCP&L focuses solely on self-commitment.

3. **Empire District Electric Company Response**

At the outset, Sierra Club notes that the substance of the Empire District Electric Company's filing is almost entirely confidential, including material that both of the other IOUs treated as public. This classification is unwarranted for large swaths of Empire's filing, and impedes the public's ability to understand and engage in this docket. In the interest of a thorough and transparent investigation, the Commission should ask Empire to provide a public, redacted version of its submission to the greatest extent possible.

**[redacted]

[redacted]

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[37] Empire Response, Exhibit B, at 1.
[38] Empire Response, Exhibit C, at 2.

[redacted]

39 Empire Response, Exhibit A at tab "Resources"

40 Empire Response, Exhibit A at tab "Self Cmt P&L", column AI at lines 26 and 29

41 Empire Response, Exhibit B, at 2.

[redacted]**[42] Like Ameren and KCP&L, Empire fails to describe whether or how it quantitatively assesses whether self-commitment benefits ratepayers under these circumstances. Based on Empire's filing, the Commission can only assume that Empire decides whether to self-commit based on general circumstances, rather than a rigorous assessment of the costs and benefits of doing so.

C. Conclusion

In conclusion, Sierra Club appreciates the opportunity to participate in this proceeding and offer the above comments on the information submitted by Missouri's three IOUs. Although the utilities have submitted information that is somewhat helpful in understanding the reasons why they might choose to self-commit as a *general* matter, the utilities have not discussed what quantitative mechanisms are used to determine whether self-commitment is justified in a *particular* circumstance. Based on these submissions, the Commission cannot be assured that the

[42] Empire Response, Exhibit C, at 5.

utilities have sufficiently rigorous processes in place to ensure that self-commitment and self-dispatch practices are beneficial to ratepayers.

Sierra Club recommends that Staff continue to explore these issues with the utilities as it prepares its report, and that any additional information shared by the utilities is filed in the proceeding, subject to protections for confidential information as needed. Because this is a topic of significant interest from grid operators, independent market monitors, and other state regulators, Sierra Club recommends that Staff make as much of the report publicly available as possible.[43] The public would benefit from a more open discussion of this topic, to be assured that the Commission is fully investigating these practices and protecting ratepayer interests.

Finally, we recommend that the Commission establish an ongoing reporting requirement for Missouri IOUs relating to self-commitment and self-scheduling practices. The market factors affecting whether these practices benefit ratepayers are dynamic and practices that may appear beneficial one year may cease to be so as new entry and competition bring lower energy market prices.

Respectfully submitted,

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[43] The utilities varied significantly in whether they regarded information responsive to the Commission's questions to be confidential – Ameren treated none of its information as confidential, while Empire treated nearly its entirely submission as confidential.

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct PDF version of the foregoing was filed on EFIS on this 23rd day of July, 2019, as well as sent to the certified service list for this docket.

/s/ Casey Roberts
Casey Roberts