

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

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

In the Matter of an Investigation of Missouri )  
Jurisdictional Generator Self-Commitments into ) **File No. EW-2020-0032**  
SPP and MISO Day-Ahead Energy Markets - )  
Ameren Missouri )

In the Matter of an Investigation of Missouri )  
Jurisdictional Generator Self-Commitments into ) **File No. EW-2020-0033**  
SPP and MISO Day-Ahead Energy Markets - )  
Kansas City Power & Light Company )

In the Matter of an Investigation of Missouri )  
Jurisdictional Generator Self-Commitments into ) **File No. EW-2020-0034**  
SPP and MISO Day-Ahead Energy Markets - )  
KCP&L Greater Missouri Operations Company )

In the Matter of an Investigation of Missouri )  
Jurisdictional Generator Self-Commitments into ) **File No. EW-2020-0035**  
SPP and MISO Day-Ahead Energy Markets - )  
The Empire District Electric Company )

**STAFF SUPPLEMENTAL REPORT OR REQUEST FOR COMMISSION ORDER**

**COMES NOW** Staff of the Missouri Public Service Commission and for its Supplemental Report or Request for Commission Order respectfully states as follows:

1. On September 18, 2019, the Commission issued its *Order Accepting Staff's Report Regarding Its Investigation of Missouri Jurisdictional Generator Self-Commitments and Self-Scheduling, and Seeking Additional Information* ("Order").
2. In that Order, the Commission ordered:

1. No later than **October 2, 2019**, the investor-owned electric utilities (Union Electric Company d/b/a Ameren Missouri, Kansas City Power & Light Company, KCP&L Greater Missouri Operations Company, and The Empire District Electric Company, a Liberty Utilities Company) shall separately answer the following questions:

- a) What is their definition of “economic minimum” or “unit minimum”?
- b) How do they establish an “economic minimum” or “unit minimum”?
- c) What are the pros and cons of allowing self-committing up to that amount?
- d) Why does the “economic minimum” or “unit minimum” vary?

2. Staff shall file a supplemental report regarding the additional information provided by the investor-owned electric utilities by October 16, 2019. (Emphasis added)

3. The investor-owned electric utilities filed responses on October 2, 2019, which are summarized as follows:

(a) What is their definition of “economic minimum” or “unit minimum”?

The utilities responded:

The Southwest Power Pool (“SPP”) Integrated Market (“IM”) defines Minimum Economic Capacity Operating Limit (“Min Econ Limit”) as a MW level at or above a Resource’s Minimum Normal Capacity Operating Limit (“Min Norm Limit”) used for energy dispatch at a minimum level during normal operating conditions. The Minimum Normal Capacity Operating Limit is defined as the minimum MW level at which a Resource may operate continuously.<sup>12</sup>

MISO Energy Markets and Operating Reserve Tariff Defines the hourly Economic Minimum limit as the minimum MW level at which a Generation Resource or Demand Response Resource Type II, Stored Energy Resource – Type II, or External synchronous Resource may operate under normal system

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<sup>1</sup> 10/2/2019 Empire District Electric Company Response to Commission order pg. 1

<sup>2</sup> 10/2/2019 Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company Response to Commission Questions pg. 1

conditions that may be submitted to override the default value submitted during the asset registration process.<sup>3</sup>

(b) How do they establish an “economic minimum” or “unit minimum”?

Ameren Missouri:

Unit minimums are established by operations staff at each Energy Center daily and those minimums are used as the Hourly Economic Minimum Limit (per the MISO tariff, as noted above) in the daily offers submitted to MISO. These minimums are set by the operations staff because the staff at each Energy Center is responsible for knowing and understanding the operational limits of the equipment and systems, and for safely operating the units at each respective Energy Center within the design parameters of the plant. In general, the unit minimum limits are based on equipment, process, or control limitations such that operation below the unit minimum would pose substantial risks to unit reliability or stability, increase the potential for unit trips, or cause long term degradation of equipment.<sup>4</sup>

Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company:

Typically, established by each plant, the minimum MW level at which the resource may operate continuously is considered the economic minimum and is subsequently given to the SPP market as a minimum parameter.<sup>5</sup>

The Empire District Electric Company:

Liberty-Empire utilizes the same megawatt (MW) values for Min Econ Limit and Min Norm Limit even though not required by the IM. These lower limits are

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<sup>3</sup> 10/2/2019 Ameren Missouri’s Response to Order Accepting Staff’s Report Regarding its Investigation of Missouri Jurisdictional Generator Self-Commitments and Self-Scheduling, and Seeking Additional Information pg. 1

<sup>4</sup> 10/2/2019 Ameren Missouri’s Response to Order Accepting Staff’s Report Regarding its Investigation of Missouri Jurisdictional Generator Self-Commitments and Self-Scheduling, and Seeking Additional Information pg. 2

<sup>5</sup> 10/2/2019 Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company Response to Commission Questions pg. 1

based on various factors such as ambient temperatures, current operating conditions, historical operational results, etc.<sup>6</sup>

(c) What are the pros and cons of allowing self-committing up to that amount?

The utilities responded that the pros of allowing self-committing up to that amount is typically consistent with what was stated in Staff's report.

The IOUs also indicated that some of the reasons they have or do self-commit a generating unit include: contract terms for coal plants; low gas prices that reduce the opportunity for coal units to be economically cleared in the day ahead market; long startup times; overtime costs, increased major maintenance costs, compliance testing, vetting repairs; and a risk-averse business practice approach. They indicated many of these reasons stem from the fact that the day ahead market model clears the next 24 hours.

(d) Why does the "economic minimum" or "unit minimum" vary?

Ameren Missouri:

Unit minimum limits may vary due to off-normal operation or malfunctioning of equipment or controls, or certain key pieces of equipment being out of service and in need of repair during the next maintenance cycle. During times of excessive rainfall, wet coal issues often occur and cause abnormally high risk of coal mill or cyclone trips that could risk a unit trip at the normal minimum load. Another issue that could affect minimum limits is unit testing that requires steady output for multiple hours.<sup>7</sup>

Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company:

A resource's minimum could change occasionally to facilitate operational or environmental issues (e.g. environmental testing). Changing the

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<sup>6</sup> 10/2/2019 Empire District Electric Company Response to Commission order pg. 1

<sup>7</sup> 10/2/2019 Ameren Missouri's Response to Order Accepting Staff's Report Regarding its Investigation of Missouri Jurisdictional Generator Self-Commitments and Self-Scheduling, and Seeking Additional Information pg. 4

configuration/operations of auxiliary equipment at the facility can impact the unit minimums. As facilities test, unit minimums may potentially lower as operational or equipment improvements are made to allow lower sustainable load.<sup>8</sup>

The Empire District Electric Company:

Min Econ Limits and Min Norm Limits are based on various factors. One factor that has a daily affect is ambient temperatures. Natural gas units in particular are affected by varying ambient temperatures, resulting in lowering or raising minimum and maximum operating limits. Operational issues that cause de-rated maximums can also affect minimums of the unit. These issues vary depending on the type of the unit, but can affect the Min Econ Limit. Environmental control issues can also affect the Min Econ Limits. For example, units generating below a certain output may have difficulties controlling Nitrous Oxide (NOx) to acceptable levels.<sup>9</sup>

Staff Review of additional information

4. Each utility has cited the RTO definition for economic minimum or unit minimum. However, the responses provided by the utilities provided little, if any, additional definitive information or data for Staff to provide a supplemental report as ordered by the Commission regarding the following questions:

- a) How do they establish an “economic minimum” or “unit minimum”?
- b) What are the pros and cons of allowing self-committing up to that amount?
- c) Why does the “economic minimum” or “unit minimum” vary?

5. If the Commission finds that the responses filed by the utilities on October 2, 2019, provide the Commission with adequate answers to its questions, then

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<sup>8</sup> 10/2/2019 Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company Response to Commission Questions pg. 4

<sup>9</sup> 10/2/2019 Empire District Electric Company Response to Commission order pg. 4

no further action may be necessary in these dockets recognizing that Staff will continue analysis of the issues regarding the practice of self-commitments within the Fuel Adjustment Clause (FAC) prudency review proceedings or within a rate case. However, if the Commission seeks additional information regarding the establishment of economic/unit minimum, the economic outcome of such decisions, and a subsequent report from Staff regarding those topics, Staff recommends that the Commission direct the utilities to respond to the following questions:

1. Are the economic or unit minimums established based upon the physical limitations of each plant?
2. Are the economic or unit minimums established based upon the optimization of operation of each plant?
3. What factors are considered in the determination of the economic or unit minimums?
  - a. What weighting is applied to each factor in the determination of the economic or unit minimums?
4. Do the economic or unit minimums ever vary for any reason other than the physical characteristics of the individual plant with the exception of unit testing?
  - a. With the exception of unit testing, please explain each instance that the utility deems that this action is appropriate for purposes of bidding into each market.
    - i. What are the potential economic outcomes from such action?
    - ii. Provide quantification of the benefits and detriments of each instance which the economic or unit minimum varied for reasons other than the physical characteristics of the individual plant.
    - iii. How often is an analysis conducted regarding the economic outcome of variances from physical characteristics within the bidding strategy of the unit?

- iv. Who is responsible for determining the appropriateness of variances from physical characteristics within the bidding strategy of the unit?

**WHEREFORE** Staff respectfully requests an order from the Commission either (a) finding that the responses filed by the utilities on October 2, 2019, provide the Commission with adequate answers to its questions and closing these dockets or (b) directing the investor-owned electric utilities to respond to the questions set forth above by a date to be determined by the Commission and directing a subsequent report from Staff.

Respectfully submitted,

**/s/ Jeffrey A. Keevil**

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Missouri Public Service Commission

### **CERTIFICATE OF SERVICE**

I hereby certify that copies of the foregoing have been mailed, hand-delivered, or transmitted by facsimile or electronic mail to counsel of record this 7th day of October, 2019.

**/s/ Jeffrey A. Keevil**