

**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)	

**EVERGY MISSOURI METRO AND EVERGY MISSOURI WEST
RESPONSE TO COMMISSION QUESTIONS**

COME NOW Evergy Metro Inc. d/b/a Evergy Missouri Metro and Evergy Missouri West, Inc. d/b/a Every Missouri West (collectively, the “Company”)¹ and, and for their *Response to Commission Questions* (“Response”) to the Missouri Public Service Commission’s (“Commission”), *Order Directing Further Responses* issued in this docket on October 16, 2019, state as follows:

(A) Are the economic or unit minimums established based upon the physical limitations of each plant?

Response: Yes. Each plant is different and was designed primarily as a base load unit. There are many factors when determining the physical limitation of the plant. The Company is currently utilizing the EPRI Systematic Approach to Reducing Minimum Load in further challenging the physical limitations of the plant. Each plant has site specific limitations that prevent continuous and reliable operation below their economic minimum. The Company believes that the limitations of the plant may be systematically reduced upon further engineering analysis and plant specific low load testing. It is important to note that the design criteria of the boilers were most generally based on the point in which they can produce steady and optimum steam quality while also providing adequate flow and circulation to protect critical boiler heat transfer components. Some units in the

¹ Effective October 7, 2019, Evergy Metro Inc. d/b/a Evergy Missouri Metro adopted the service territory and tariffs of Kansas City Power & Light Company and Evergy Missouri West, Inc. d/b/a Evergy Missouri West adopted the service territory and tariffs of KCP&L Greater Missouri Operations Company.

fleet are operating at an economic minimum well below initial original equipment manufacturer (OEM) design criteria.

(B) Are the economic or unit minimums established based upon the optimization of operation of each plant?

Response: Economic minimums will not be the optimum operation of each plant. Equipment is sized to have sufficient capacity at its unit's full load range, which in turn can be oversized at low load. When evaluating minimum load, equipment sizing and reliability are evaluated in the decision to determine the plant's physical limitation. One key aspect of determining minimum load is the ability for the unit to have sustained, long term operations at that load with minimal risk of damage from operation.

(C) What factors are considered in the determination of the economic or unit minimums?

Response: Factors include: cycle efficiency of the unit, turbine Wilson line characteristics, boiler feed pump turndown and recirculation requirements, combustion optimization, emissions control equipment minimum operating temperature, flow assisted corrosion risk points, pump flow requirements, boiler circulation requirements, steam temperature reductions and associated thermal cycles, heater level controls, turbine water induction prevention system requirements, sealing steam temperature and flow requirements, and stresses on equipment based on turndown.

(i) What weighting is applied to each factor in the determination of the economic or unit minimums?

Response: There is no standard weighting; each plant is unique, and each must be analyzed independently based on the specific unit design.

(D) 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?

Response: There have been specific instances when economic minimums have been changed in the short term in our daily submittals due to a reliability concern where substantial risk is incurred in operating that piece of equipment in low load conditions.

(i) With the exception of unit testing, explain each instance that the utility deems that this action is appropriate for purposes of bidding into each market

Response: The Company does not adjust a unit's Economic Minimum for purposes of bidding into the market. Economic Minimums represent the unit's physical capability and are not changed for reasons other than testing or protecting the integrity of the equipment.

(a) What are the potential economic outcomes from such action?

Response: Because changes to a plant's physical characteristics are only changed when needed for testing or to protect the integrity of equipment, rather than to support a bidding strategy, the Company does not have this analysis.

(b) 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.

Response: The Company does not have this analysis.

(c) How often is an analysis conducted regarding the economic outcome of variances from physical characteristics within the bidding strategy of the unit?

Response: This analysis is not conducted since physical characteristics aren't changed at units to support a bidding strategy; they are only changed when a unit has testing or concerns about the reliability of the equipment.

- (d) **Who is responsible for determining the appropriateness of variances from physical characteristics within the bidding strategy of the unit?**

Response: This analysis is not conducted since physical characteristics aren't changed at units to support a bidding strategy, they are only changed when a unit has testing or concerns about the reliability of the equipment.

WHEREFORE, the Company requests that the Commission take notice of their compliance with the condition cited above.

Respectfully submitted,

/s/ Roger W. Steiner

Robert J. Hack, MBN 36496
Roger W. Steiner, MBN 39586
Evergy, Inc.
1200 Main Street, 16th Floor
Kansas City, MO 64105
(816) 556-2785 (Phone)
(816) 556-2787 (Fax)
rob.hack@evergy.com
roger.steiner@evergy.com

**Attorneys for Evergy Missouri Metro and
Evergy Missouri West**

CERTIFICATE OF SERVICE

I do hereby certify that a true and correct copy of the foregoing document has been emailed or mailed, postage prepaid, this 25th day of October 2019, to all counsel of record.

/s/ Roger W. Steiner

Attorney for Evergy Missouri Metro and
Evergy Missouri West