

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

In the Matter of a Working Case to Explore                    )  
Emerging Issues in Utility Regulation                    )        **Case No. EW-2017-0245**

**MISSOURI DIVISION OF ENERGY’S  
RESPONSE TO STAFF REPORT ON DISTRIBUTED ENERGY RESOURCES**

COMES NOW the Missouri Department of Economic Development – Division of Energy (“DE”) before the Missouri Public Service Commissions (“Commission”) and, for its *Response to Staff Report on Distributed Energy Resources* in the above-styled matter, states as follows:

1.       On April 5, 2018, the Missouri Public Service Commission (“Commission”) – Staff Division (“Staff”) filed its *Staff Report on Distributed Energy Resources*. The *Report* contains a number of recommendations, such as ordering electric utilities to maintain certain information on distributed energy resources (“DERs”), revisiting the Commission’s order regarding retail aggregation, revising the cogeneration and net-metering rules, modifying the Commission’s Chapter 22 rules regarding distribution system planning, and certain rate design changes.<sup>1</sup> While additional time will be needed for DE to review and consider Staff’s specific suggestions, DE supports the direction of many of Staff’s ideas.

2.       Below, DE addresses two of Staff’s points in the report. The first relates to the treatment of combined heat and power (“CHP”) under the Missouri Energy Efficiency Investment Act (“MEEIA”), and the second to the implementation of demand charges for residential customers.

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<sup>1</sup> *Report*, pages 1-3.

## COMBINED HEAT AND POWER

3. Staff's *Report* includes the following paragraph regarding CHP:

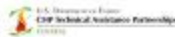
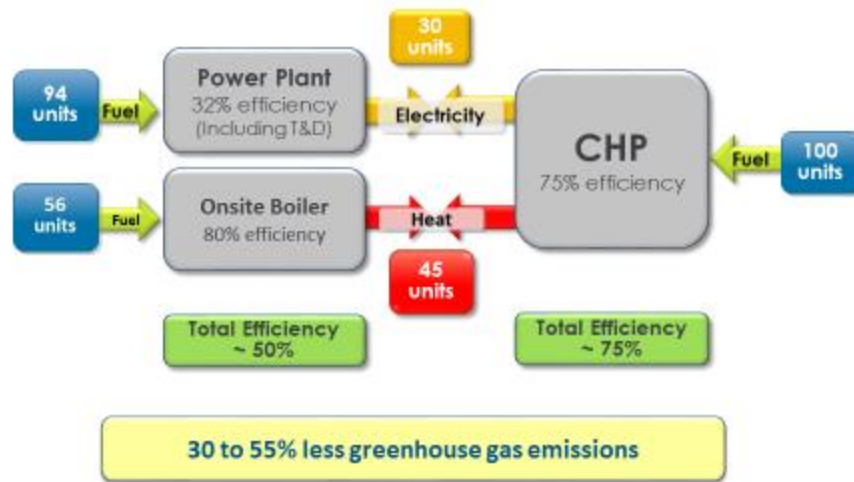
Distributed energy resources can also include CHP systems, which provide both electric power and heat from a single fuel source. While most power plants in the United States create steam as a byproduct that is released as waste heat, a CHP system captures the heat and uses it for many other purposes such as heating, cooling, domestic hot water, and industrial processes. CHP systems can use a diverse set of fuels to operate, including natural gas, biomass, coal, and process wastes. CHP has been evaluated as a potential MEEIA program before, and Ameren Missouri determined it was not cost effective as a measure. CHP systems also have the potential to build load for other utilities, i.e. increased natural gas usage increasing the load of gas utilities. The spirit of MEEIA and its effort to create customer savings by delaying or preventing future investments in generation plant would be contravened by shifting load from one utility industry to another, and therefore increasing the need for future investments borne by ratepayers. (Citation omitted)<sup>2</sup>

4. Several of Staff's points are incorrect. First, as Staff notes, CHP systems do not always use natural gas; to the extent that natural gas is not used, there is no clear shifting of investments in infrastructure between regulated utilities. However, even if natural gas is used for a CHP system, it is incorrect to imply that the result is a "zero-sum game" in which electric utility infrastructure investments are replaced by natural gas utility infrastructure investments. The following graphic from the U.S. Department of Energy's CHP Technical Assistance Partnership illustrates that CHP, through the use of otherwise wasted heat, is more efficient than the use of separate processes for providing electricity and thermal load:

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<sup>2</sup> *Report*, page 12.

## CHP Recaptures Heat of Generation, Increasing Energy Efficiency, and Reducing GHGs



It is therefore inaccurate to claim that, “The spirit of MEEIA and its effort to create customer savings by delaying or preventing future investments in generation plant would be contravened ...” because of including CHP under MEEIA.

5. Furthermore, Staff’s assertion that, “CHP has been evaluated as a potential MEEIA program before, and Ameren Missouri determined it was not cost effective as a measure” does not provide all of the relevant information on the subject. Ameren’s 2014 Demand-Side Management Market Potential Study included, “... in-depth case studies of DG-CHP applications for two Ameren customers: a major corn milling facility and a major manufacturing facility.” In both cases, the analysis found CHP to be cost-effective, albeit marginally. The Total Resource Cost Test values of the applications were 1.17 and 1.04, respectively.<sup>3</sup> DE also cautions that any cost-effectiveness tests of CHP should evaluate costs and benefits symmetrically – in other words, if savings related to the use of an alternative fuel are not counted in a cost-effectiveness test, then the

<sup>3</sup> Enernoc Utility Solutions, “Demand-Side Management Market Potential Study, Volume 5: Distributed Generation Analysis.” Study prepared for Ameren Missouri and presented on December 20<sup>th</sup>, 2013.

costs of the CHP installation should be fairly apportioned between electric and alternative fuel savings.

6. All three MEEIA Cycle 2 portfolios currently allow for the consideration of CHP as a customer measure for commercial and industrial customers on a case-by-case basis. This an approach that accommodates concerns about some projects not meeting cost-effectiveness criteria or violating Commission prohibitions on load building.

### **RESIDENTIAL DEMAND CHARGES**

7. Staff recommends a “phased” approach to the implementation of on-peak demand charges, beginning with studying determinants and, sometime around 2025, implementing, “... a 12 month demand charge for recovery associated with local distribution facilities.”<sup>4</sup>

8. DE does not necessarily disagree with the implementation of residential demand charges, but is concerned about prejudging their usefulness so far in advance of actual rate cases or the full consideration of alternatives. To the extent that utility metering infrastructure may not enable demand charges, there is a concern about implementing them from an operational perspective. As Staff seems to recognize, customer education will also be important. Without customer understanding of demand charges, there is a risk that customers could receive higher bills with what could effectively be a varying “fixed charge” from a customer perspective.

9. Additional discussion is also warranted as to why time-differentiated energy charges could not accomplish similar goals as demand charges. While a high demand charge cannot be avoided once it is incurred for the month, energy charges can be avoided through continuing modifications of usage.<sup>5</sup>

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<sup>4</sup> Report, pages 50-53.

<sup>5</sup> See also Lazar, Jim, 2016, *Teaching the “Duck” to Fly*, 2<sup>nd</sup> ed., Regulatory Assistance Project, <http://www.raponline.org/wp-content/uploads/2016/05/rap-lazar-teachingtheduck2-2016-feb-2.pdf>, pages 28-32.

WHEREFORE, the Division of Energy respectfully submits its *Response to Staff Report on Distributed Energy Resources*.

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that true and correct copies of the foregoing have been emailed to the certified service list this 17<sup>th</sup> day of April, 2018.

/s/ Marc Poston