March 3, 2014

Public Utilities Commission of Ohio
180 E. Broad Street
Columbus, Ohio 43215

Comments on Public Utilities Commission of Ohio Case Nos. 13-651-EL-ORD, 13-652-EL-ORD, and 12-2156-EL-ORD

Dear Chairman Snitchler:

We are grateful for the opportunity to comment on the draft rule changes and applications proposed in accordance with Senate Bill 315 (SB 315) relating to combined heat and power (CHP) and waste energy recovery (WER). I am writing on behalf of the Alliance for Industrial Efficiency, a diverse coalition that includes representatives from the business, environmental, labor and contractor communities. The Alliance for Industrial Efficiency is committed to enhancing manufacturing competitiveness, improving electric reliability, and reducing carbon emissions through the greater use of CHP and WER. Our national membership includes electrical, mechanical and sheet metal contractors as well as other businesses based in Ohio. We welcome the Commission's steps to design a framework for implementing SB 315, but we believe that critical changes must be made to ensure the rules will result in increased deployment of CHP and WER, which will benefit Ohio's manufacturers and economy.

As you know, Ohio shows great potential for technologies like CHP and WER to provide clean sources of energy for manufacturers, commercial entities, hospitals and college campuses. CHP currently produces 522 megawatts of clean and efficient power in Ohio;[1] however, by some estimates, it could generate ten times that amount.[2] Doing so would boost manufacturing competitiveness, create jobs, reduce emissions, and stabilize energy costs for some of Ohio's most energy-intensive industries. By establishing a process by which a customer's CHP or WER system can be recognized through an electric utility's energy efficiency program, PUCO provides a way for the state to realize these benefits. However, we have several concerns with specific provisions with the rules and applications that we believe will prevent Ohio from

[1] DOE, ICF CHP Installation Database, "Combined Heat and Power Units Located in Ohio" (http://www.eea-inc.com/chpdata/States/OH.html).
[2] ICF, WADE, USCHPA, Oct. 2010, "Effect of a 30 Percent Investment Tax Credit on the Economic Market Potential for Combined Heat and Power," at 11-12 (Tables 3 & 4) (reporting 5,615 MW of remaining technical potential).

realizing its full deployment potential. Our comments make the following three recommendations: (1) we see the need to establish a universal, performance-based electrical savings accounting method; (2) we believe that there should be greater clarity around the length of the savings credit and the timing of the cash payment; and (3) we are concerned that the maximum incentive available is too low to be effective.

1. Calculating Electrical Savings

The proposed rule changes provide no uniform statewide policy regarding how to calculate electrical savings produced by a CHP or WER system. This omission leaves it to electric distribution utilities (EDUs) to decide how to calculate such savings; this could result in very different methodologies being used by EDUs across the state. Under these rules, different EDUs could estimate the total kilowatt hours committed to the EDU's efficiency program from the same CHP or WER project at very different levels, making it impossible for developers to anticipate the size of the incentive.

To correct this problem, we recommend that a portion of the incentive be based on a statewide, standardized, performance-based savings calculation method for CHP and WER systems. Ideally, this method would involve calculating a customer's baseline electrical usage prior to the installation of a system and comparing usage after the system is brought online to determine usage reduction. The draft rule should clarify that this performance-based approach is to be used for any current or future programs for CHP and WER. While each utility may offer a different incentive per kilowatt hour of energy savings, a standardized approach would allow developers to determine the size of the incentive and make a more informed decision about their projects.

2. Length of Credit and Timing of Payment

The proposed rule does not specific how long a utility can claim energy savings generated by a CHP or WER project, nor does it stipulate how long the customer can receive a cash-payment incentive. These factors, however, are critically linked to the economics of the project and should not be left to utilities to determine on an *ad hoc* basis. PUCO should revise the proposed rule to make these durations clear and ensure predictability for utility customers and CHP developers.

In addition, the proposed rule does not specify when a customer will be able to collect the cash payment—whether after initial application approval, at the time of installation, once the system becomes operational, or after some period of time once the system comes online. CHP and WER installations are capital intensive. A 2012 analysis by ICF Consulting reports installed cost

of a CHP system ranging from $1,170 to $2,450 per kilowatt, depending on system size.[3] A 2011 report by the American Council for an Energy-Efficient Economy (ACEEE) dubbed these upfront costs "staggering," and identified them as a primary obstacle to greater deployment.[4] To help defray these costs, PUCO should revise the rules to explicitly allow for the division of the cash incentive, to allow for some upfront cash payment based on the size of the approved project, in addition to performance-based payments once the plant is operational. Such an approach will allow for some compensation to cover expenses associated with project design and help shrink the return on investment. This approach is consistent with the Illinois and Maryland programs discussed below.

3. Size of Cash Incentive

The size of the cash incentive ($0.005 per kilowatt hour) that mercantile self-direct customers are eligible to receive may be too small to generate sufficient interest in CHP and WER deployment. The actual size of the proposed incentive is unclear because of the uncertainty raised above relating to the length of the credit: if the credit is only available for a short period (e.g., one year), this incentive is significantly lower than similar programs in other states. If the cash incentive is available for a number of years, it may be more substantial over time, but still fail to encourage projects because developers would prefer to receive immediate compensation. Moreover, even if available until the Ohio Energy Efficiency Resource Standard sunsets (in 2025), a $.005 per kilowatt hour incentive throughout the life of the program would be less than $.06 per kilowatt hour for projects constructed in 2014 – and even less in subsequent years. As discussed below, even this optimistic construction of the proposal is not on par with CHP and WER incentives being offered in other states. We doubt that PUCO intended to design such a diminishing incentive for energy efficiency.

There are a number of alternative models for cash incentives to encourage CHP and WHP deployment:

- In a pilot program recently approved by the Illinois Commerce Commission, the state's Department of Commerce and Economic Opportunity (DCEO) is proposing incentives for various phases during CHP construction and operation: a $75 per kilowatt incentive at the completion of the design phase; a $175 per kilowatt incentive at the commissioning of the system; and an $0.08 per kilowatt-hour incentive for electricity produced by the CHP unit, to be paid at the end of the first year of operation.[5] Assuming that the Ohio cash incentive is limited to the first year of operation, Illinois' incentive is 16-times larger

[3] ICF International, February 2012, "Combined Heat and Power: Policy Analysis and 2011-2030 Market Assessment," Table 40 (http://www.energy.ca.gov/2012publications/CEC-200-2012-002/CEC-200-2012-002.pdf).
[4] American Council for an Energy-Efficient Economy, September 2011, "Challenges Facing Combined Heat and Power Today: A State-by-State Assessment," at iv and 6 (http://aceee.org/node/3078?id=3933).
[5] Illinois Department of Commerce and Economic Opportunity, 2014, "Combined Heat and Power Program Template."

than the incentive in the proposed application. Even if the Ohio incentive continues throughout the life of the EERS (i.e., until 2025), it is not as generous.

- Maryland's three IOUs offer a similar incentive for CHP systems that achieve greater than 65 percent efficiency. Under Baltimore Gas and Electric's program, eligible CHP systems receive an initial $75/ kW design incentive (upon receipt of a signed commitment letter and acceptance of a minimum requirements document), followed by a $175/ kW installation incentive, and a production incentive of $0.07/kWh paid out in three installments over the first 18 months of the system's operation.[6] The other IOUs offer similar "split" (design and performance-based) incentives.[7] These programs have proven remarkably successful, with the three utilities (Baltimore Gas & Electric, PEPCO and Delmarva Power) expected to approve 33 applications in the first year, representing more than 350,000 MWh in annual energy savings – more than PEPCO and Delmarva's Commercial portfolio program-to-date.[8]

- In a case currently pending before PUCO, Jay Plastics proposed an incentive of $0.01875/ kWh for at least 5.39 years for a CHP system to be installed at their facility.[9] While substantially lower than the average levelized cost per kilowatt hour of other efficiency programs,[10] the Jay Plastics proposal is more than triple the proposed incentive level. This inconsistency across projects creates unnecessary confusion for developers and will hinder development.

- Other jurisdictions offer smaller incentives over a longer time frame. For instance, the Public Service Company of Colorado (an electric utility) proposed a $0.00794 per kilowatt-hour incentive over the life of a CHP project (e.g., 20 years). This incentive – which is substantially higher than what is proposed in Ohio – has been challenged by developers. In comments to the Colorado Public Utilities Commission, one CHP developer called the incentive "inadequate" and suggested that an incentive of $0.015

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[6] *See* Baltimore Gas & Electric Smart Energy Savers Program (http://www.bgesmartenergy.com/business/chp).

[7] *See, e.g.,* Pepco (https://cienergyefficiency.pepco.com/CombinedHeat.aspx) and Delmarva Power (https://cienergyefficiency.delmarva.com/CombinedHeat.aspx).

[8] Public Service Commission of Maryland, April 2013, "The EmPOWER Energy Efficiency Act Standard Report" (data for compliance year 2012) (http://webapp.psc.state.md.us/intranet/Reports/2013%20EmPOWER%20Maryland%20Energy%20Efficiency%20Act%20Standard%20Report.pdf).

[9] Jay Plastics, December 2013, "Application to Commit Energy Efficiency/Peak Demand Reduction Programs" (Case No.: 13-2440-EL-EEC), (http://dis.puc.state.oh.us/TiffToPDf/A1001001A13L27B65307D06153.pdf).

[10] Max Neubauer, American Council for an Energy-Efficient Economy, April 2013, "Ohio's Energy Efficiency Resource Standard: Impacts on the Ohio Wholesale Electricity Market and Benefits to the State," at ES-1 and accompanying text (noting that "the levelized cost of these comprehensive [energy efficiency] portfolios averages around $0.03/kWh") (http://www.aceee.org/sites/default/files/publications/researchreports/e138.pdf).

per kilowatt-hour would "have more impact and value."[11] Developers have also explained that they would prefer an upfront payment to allow for greater certainty.

Certainly, the proposed cash incentive would be substantially more generous if developers could claim it for multiple years. This may very well be PUCO staff's intent. If so, that possibility should be clear on the face of the application. Uncertainty about the length of the incentive period prevents developers from being able to reliably determine project economics. We also reiterate that a multi-year payment would be limited by the length of the EERS, so would become less generous for projects constructed in later years. Finally, in speaking with our members, we understand that there is a strong preference for a larger, upfront payment, rather than an extended modest credit. This allows developers to recoup project costs immediately so that they can begin to internalize the long-term economic benefits of their investments.

In developing a state energy plan and enacting SB 315, Governor Kasich and the Ohio legislature intended to establish Ohio as a leader on industrial efficiency. These initiatives can attract investments in Ohio's manufacturing sector and help the state realize long-term economic benefits. Yet, by establishing a modest cash incentive that lacks parity with those offered in other jurisdictions, CHP developers will look elsewhere to invest.

In sum, we recommend that PUCO clarify the length the incentive can be received and, if necessary based on the length, adjust the size of the incentive to more closely align with CHP deployment incentives in other states. By making these adjustments, PUCO can help meet the goals of SB 315, incent the further growth of CHP and WER in the state, and allow Ohio businesses to realize the economic and environmental benefits associated with such deployment. We are grateful that Ohio has shown such a strong commitment to promoting industrial efficiency and believe that the changes we recommend above will help solidify Ohio as a leader in this area.

Sincerely,

David Gardiner
Executive Director
Alliance for Industrial Efficiency

[11] Ormat Technologies, February 2014, "In the Matter of the Application of Public Service Company of Colorado for Approval of its 2014 Renewable Energy Standard Compliance Plan."