

**BEFORE THE
PUBLIC UTILITY COMMISSION OF OHIO**

Proposed Rule Review)	Case No's:
Ohio Energy Efficiency Programs;)	13-651-EL-ORD
Alternative Energy Resource Standard;)	13-652-EL-ORD
Implementation of Am. Sub. S.B. 315)	12-2156-EL-ORD

**REPLY COMMENTS OF THE MIDWEST COGENERATION ASSOCIATION;
PROPOSED OHIO PUBLIC UTILITY COMMISSION REGULATIONS
FOR CHP/WER ENERGY EFFICIENCY PROGRAM**

Please accept for e-Filing with the Public Utility Commission of Ohio (Commission) the following Reply Comments of the Midwest Cogeneration Association (MCA) responding to the initial comments submitted by other parties in this proceeding.

I. PARAMETERS FOR CHP/WER PROGRAMS SHOULD BE SPECIFIED IN THIS RULE

Ohio Power Company (Ohio Power) takes the position that flexibility in this rule is appropriate in this case due to the variety and complexity of projects. *Ohio Power Initial Comments*, p. 11. We disagree. We share the concern expressed by Interstate Gas Supply (IGS) that, if granted too much flexibility, the electric utilities will leave CHP out of funding for EE and DR altogether. *IGS Initial Comments*, p. 4. We note that the First Energy Electric Distribution Utilities (First Energy) concur that “specific guidance on CHP/WER” is needed. *First Energy Initial Comments*, p. 26.

IGS also recommends language that would require utilities to provide CHP and WER projects with energy efficiency and demand reduction funding on an equal and non-discriminatory basis. *IGS Initial Comments*, p. 4. We agree that such a statement would provide useful guidance for the implementation of this program.

Further, we note that some of the comments in this proceeding suggest more onerous requirements for CHP projects than the Commission has required for other energy efficiency measures. This overly cautious approach to CHP/WER proposal may foil the intent of SB 315. CHP and WER are well-established technologies, indeed, going back to the era of Thomas Edison’s first engines. They also operate at a reliability of 95%, meaning that they offer reliable baseline and peak hour energy savings. Where different requirements are proposed for CHP/WER projects, the Commission should carefully scrutinize those recommendations to ensure that this program does not create unwarranted hurdles for CHP /WER projects.

II. THE LEVEL OF INCENTIVE OFFERED IN THE PROPOSED RULE IS TOO LOW TO ACCOMPLISH THE GOAL OF SB 315

With the exception of the electric utilities, all of the stakeholder groups commenting in this proceeding agree with the MCA that the \$0.005/kWh incentive level is too low. See Comments of the Ohio Manufacturers' Association Energy Group (OMA), *OMA Initial Comments*, p. 11; Joint Comments of Environmental and Consumer Advocates (E&C Advocates), *E&C Advocates Initial Comments*, p. 18; Comments of the Energy Resources Center at the University of Illinois (ERC), *ERC Initial Comments*, p. 4-5; Comments of the Heat is Power Association(HiP), *HiP Initial Comments*, p. 2; Comments of the Alliance for Industrial Efficiency (Alliance), *Alliance Initial Comments*, p. 3. Even Ohio Power recognizes the \$0.005/kWh is too low – though its proposal of \$0.01/kWh is also woefully inadequate. *Ohio Power Initial Comments* , p. 12.

The Commission's proposed \$0.005/kWh production incentive is too low even if calculated over the remaining life of the program – and will only become more diminished over the later years of the program. Duke Power (Duke) appears to propose limiting this already meager incentive to 5 years or sixty months. *Duke Initial Comments*, p. 10. This would obviously even further diminish the total production incentive and thereby diminish the success of this program.

As previously stated, Ohio has an aggressive energy efficiency target of 22% by 2025. SB 315 expressly authorized the Commission and Ohio utilities to incentivize “Waste Energy Recovery Systems” (WER) and “Combined Heat and Power Systems” (CHP) as a means to achieve that goal. The unrealized potential of this technology at Ohio factories, universities, hospitals, commercial and government buildings is over 5,000 MW.¹ But the multi-million dollar upfront capital cost of CHP and WER projects presents a significant hurdle for businesses and institutions, many of which must show payback periods of less than 5 years.

As written, the proposed regulations provide only minor incentives over an unspecified period. This is out of step with the incentives offered for CHP and WER projects in other states. As discussed in MCA's initial comments, this low level of support appears to be based on the erroneous characterization of CHP and WER projects as “behavioral measures.” *MCA Initial Comments*, pp. 6-7.

The proposed total per project incentive is also too low. The rule would also limit CHP/WER incentives in the mercantile self-direct cash program to a total of \$250,000 per project. Ohio Power goes further and would also limit the cash payment to no more than 25% of the project cost. *Ohio Power Initial Comments*, pp. 11- 12. The Commission should recognize that this is a low per project limit compared to CHP/WER programs offered in other states. As discussed in the MCA's initial comments, Maryland, Massachusetts, and Illinois have structured their CHP/WER programs to provide a package of incentives which total \$750/kWh of the system's capacity which is equivalent to approximately 50% of a CHP/WER system project cost. *MCA Initial Comments*, p. 4.

¹ The 2013 ICF International and the Great Plains Institute “Ohio – Combined Heat and Power Fact Sheet” indicates that Ohio had at that time 45 CHP sites representing a total installed capacity of 521 MW; however, Ohio's “technical capacity” for CHP installations at industrial and commercial facilities totals 5,615 MW.

To meet the intent of SB 315 and succeed in spurring CHP and WER deployment in Ohio, higher and faster incentives must be provided. Absent doing this, we fear the Ohio CHP and WER programs will fail to generate the high potential energy savings that other states have achieved with targeted CHP programs.

III. “SPLIT INCENTIVES” WILL BETTER INCENTIVIZE CHP/WER PROJECTS THAN PERFORMANCE-BASED INCENTIVES ALONE

First Energy takes the position that CHP and WER incentives should be entirely performance-based and only paid when the project is certified, fully operational and committed to the EDU. *First Energy Initial Comments*, p. 27. Ohio Power also supports performance-based incentives and says they reduce the risk to all customers from performance failure. *Ohio Power Initial Comments*, p. 11. Duke makes the point that a CHP/WER system must not only be designed to operate at a specified efficiency, it must actually operate at that efficiency. *Duke Initial Comments*, p. 2.

This sole focus on a deferred production incentive fails to target the primary barrier for CHP/WER system deployment – high upfront capital costs. The greater the incentive program is “front loaded,” the greater it will defray the upfront design, construction and equipment costs; thereby, shortening the time required for the return on these investments. This was recognized in the very successful Maryland BGE and Massachusetts programs, where CHP/WER incentive programs provide a “split incentive,” with approximately 1/3 of the incentive dollars being made available at the design and construction stage. Illinois has now modeled its targeted CHP program on this same “split incentive” model.² For all of the reasons stated in the *MCA’s Initial Comments* (pp. 2-6), we urge the Commission to consider regulations that establish the parameters of a well-structured CHP/WER program which includes a “split incentive” approach, rather than rely solely on a production incentive.

² The Maryland BGE program offers a production incentive package which is equivalent to \$750/kW of the system’s capacity. This incentive is split between upfront incentives to be paid during the project construction and design phases, and a \$0.07/kWh production incentive based on the system’s first 18 months of production. That program was oversubscribed in the first year and has been refunded at a higher level. Massachusetts’ Mass SAVE program offers a successful targeted CHP program with rebates of \$750/kW of capacity and funds 50% of the cost of feasibility studies. That program has resulted in generating CHP/WER projects that meet over 30% of the Massachusetts commercial and industrial energy efficiency targets and at the lowest cost per kWh saved of all Mass SAVE energy efficiency measures. In December 2013, the Illinois Commerce Commission approved a similar targeted CHP /WER program with split incentives equivalent to \$750/kWh for the public sector incentive programs run by the Illinois Department of Commerce and Economic Opportunity. That program includes a \$0.06-\$0.08/kWh production incentive based on the first 12 months of operation, as well as 1/3 of the incentive payments made upfront for design and construction.

IV. CONCERNS EXPRESSED REGARDING CHP/WER SYSTEM OPERATION ARE OVERSTATED AND DISCRIMINATORY

With regard to the concerns expressed by the utilities regarding the operation of CHP/WER systems:

1. The Commission should scrutinize the expressed concerns to ensure that they do not belie a discriminatory approach to CHP/WER energy efficiency measures. Neither the utilities nor any other party has presented evidence suggesting CHP/WER systems are any more likely to operate at less than their design efficiency than any other energy efficiency technology. Ongoing or annual operating demonstrations and deferred incentives are not required for energy efficient HVAC systems, for example. Why should they be required for CHP/WER systems?

Indeed, like facilities that install energy efficient appliances, facilities that install CHP/WER systems make large investments in order to save money by saving energy. They insist on manufacturer efficiency guarantees. These systems are built into the facilities overall operations – not turned off and on or up and down willy-nilly. The owners have every incentive to maximize the operating efficiency of these systems. It is fair to consider the system’s representative operation, e.g. whether the system is designed to operate only in the winter or operates differently in the “shoulder months,” for example, and calculate energy savings accordingly. But, this does not necessitate continually demonstrating performance efficiency.

2. Other states’ successful CHP/WER programs have found a 12 – 18 months demonstration of operations provides a representative picture of how a CHP/WER system will operate. Those states pay a performance incentive of \$0.06 -0.08/ kWh of demonstrated energy savings, rather than require cumbersome ongoing annual payments and efficiency demonstrations. Payment of a low production incentive over the life of the program or project – or even a shorter period, as proposed by the utilities -- will provide less incentive for CHP/WER projects than faster payments, e.g. payments based on actual production efficiency measured over the first 12 or 18 months.

V. TIERED INCENTIVE LEVELS THAT REDUCE INCENTIVES BELOW A BASELINE WILL DISCOURAGE MANY ENERGY SAVING CHP PROJECTS

The idea of creating “tiered” incentive levels to encourage optimization of CHP systems is intuitively appealing. However, for the most part, tiered incentive levels will not affect the ability of an end-user facility to achieve greater system efficiency. CHP system efficiencies are a function of the thermal load requirements of the particular end-user facility. The highest efficiencies are generally achieved at industrial facilities (i.e. refineries, chemical plants) where the thermal load is a function of process heat requirements. Thus, if a tiered approach reduces incentives for other projects, it will not encourage more efficiency; it will simply discourage applications for good projects that can operate at 60-70 efficiency – more than twice as efficiently as power production at a centralized power plant.

The first question in structuring a CHP incentive program, as for any energy efficiency incentive program, should be: What level of incentive will actually “move the dial” and bring economically beneficial energy saving projects to market? MCA suggests that a base incentive level should be offered to systems that meet the established cost-benefit analysis. In the case of CHP end-user facilities, the broadly achievable efficiency is 60%. We note that minimum efficiencies required in other state’s CHP programs vary between 0% (no efficiency specified) to 65%. See, for example, New York, 60%, BGE 65%, Massachusetts 0%, and Illinois, 60%.

If Ohio wants to incentivize optimization for the projects that actually can design for greater efficiency, it might offer a “bonus” above the base incentive level for projects that achieve efficiencies above the baseline. We note that the Massachusetts Mass SAVE Program offers 3 levels of incentives for CHP projects with the minimum level of incentive offering \$750/kW and higher incentive levels available for great efficiencies and energy efficiency undertakings — Level 1: No energy efficiency requirement/ \$750 kW incentive package; Level 2: > 60% energy efficiency / up to \$950/kW for CHP > 150 kW and \$1,000/kW for CHP < 150kW; Level 3: > 65% efficiency/ up to \$1,000 kW for CHP >150 kW and \$1200 for CHP <150kW.

VI. A UNIFORM, SIMPLE AND TRANSPARENT METHOD FOR CALCULATING ENERGY SAVINGS SHOULD BE STATED IN THE RULE

MCA agrees with other commenters that the Commission rules should provide a standardized approach for calculating energy savings from CHP/WER projects. This is important for insuring the integrity of energy savings and consistency and fairness in how incentive monies are allocated. To maximize CHP/WER project development, it is also important that the method be transparent and easy to use. This will allow project developers to readily assess the efficiency and economics of various CHP technologies. As stated in MCA’s Initial Comments, we believe the Commission’s proposed straight-forward method of determining the savings and credits for both CHP and WER projects based on total kWh production meets these criteria. *MCA Initial Comments, p. 7.*

Other commenters have suggested more complicated methods for calculating CHP savings. In determining what formula to use, the Commission should recognize there is a trade-off between accuracy and ease of implementation. Being able to readily understand and compare the incentives being offered in this Ohio program can be critical to project developers. If formulas for calculating energy savings become too opaque or burdensome, they will discourage CHP project proposals in the Ohio program.

We particularly urge the Commission to reject the overly complicated approach to calculating energy savings suggested by First Energy. *First Energy Initial Comments, p. 26.* It would require determining the efficiency of the grid based power that is being displaced and updating that baseline on at least an annual basis. Duke appears to echo the idea that a comparison to the grid efficiency is required to calculate energy savings for CHP projects. *Duke Initial Comments, p. 9.* In addition to being costly and complicated, this approach is not required for other Ohio energy efficiency measures. The prospect that the energy savings baseline calculation would become a “black box” and the calculation could vary annually would undermine the incentive from the perspective of businesses and lenders attempting to determine the value of the

incentive. Another element of First Energy’s proposed formula, if we understand it correctly, would be to credit on-site distributed generation CHP projects with the avoided line losses that accompany grid transmitted power. While this credit to both CHP and WER distributed generation projects is certainly required under First Energy’s approach, this adds another level of complication. Notably, First Energy does not mention that a truly accurate formula would also credit the CHP project with its overall energy output – including the heat energy it generates simultaneously with the electric.

If the Commission chooses to calculate the efficiency of CHP systems with greater accuracy than the pure electric output approach in the proposed rule, we recommend it consider the Illinois fuel-based formula described by the Energy Resource Center in its comments. *ERC Initial Comments*, p. 2. That formula “nets out” any additional fuel use – but it also appropriately credits the CHP project with the heat output of the CHP system. While more complicated than the Commission’s proposed pure electric output approach, the Illinois approach is relatively straight-forward and yields a more accurate picture of the actual energy savings. As stated above, there is a trade-off between accuracy and ease of implementation. However, the Illinois approach represents a reasonable middle-ground.

MCA appreciates the opportunity to present these comments.

Respectfully submitted,

A handwritten signature consisting of two stylized, cursive initials, "CH", followed by a longer, more complex name, "Haefke".

Patricia F. Sharkey

Cliff Haefke, President
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Summary: Public Comment Response Reply Comments of the Midwest Cogeneration Association electronically filed by Ms. Patricia F Sharkey on behalf of Midwest Cogeneration Association