



The Alliance for Industrial Efficiency

October 24, 2014

Brenda Biddle
Iowa Utilities Board
1375 E. Court Avenue, RM 69
Des Moines, IA 50319-0069
IN RE: Distributed Generation (Docket No. NOI-2014-0001)
Order Soliciting Additional Comments

Dear Ms. Biddle:

We are grateful for the opportunity to respond to the Iowa Utilities Board's order soliciting additional comments addressing distributed generation. This letter responds to Questions 3 and 5 in that proceeding. 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. Our national membership includes roughly 200 electrical, mechanical, and sheet metal contractors in Iowa. We previously responded to your January 7, 2014 order on distributed generation and write now to supplement and reaffirm our previous comments.

To date, several barriers have prevented combined heat and power and waste heat to power (WHP) from achieving their full potential in Iowa. As we elaborate below, we believe that the existing 500 kW cap on net-metering of CHP and WHP facilities (Question 3) and prohibitive standby tariff rates for CHP and WHP facilities (Question 5) discourage investments in these technologies.

As an initial matter, we reiterate the tremendous benefits that CHP and WHP can provide to customers, businesses, and grid reliability overall. Conventional power generation is very inefficient. Nationwide, more than two-thirds of energy inputs are lost as wasted heat. This inefficient use of energy inputs results in higher rates for customers, lost competitiveness, and increased emissions. By generating both heat and electricity from a single fuel source, CHP turns that inefficiency on its head – producing energy from more than 70 percent of fuel inputs. By generating electricity at the point of use, it also eliminates losses associated with transmission and distribution of electricity, which average about seven percent of electricity that is transmitted.¹ WHP likewise increases efficiency and reduces emissions, by capturing

¹ Energy Information Administration, "How much electricity is lost in transmission and distribution in the United States?" July 2012, (<http://www.eia.gov/tools/faqs/faq.cfm?id=105&t=3>).

otherwise wasted heat to generate additional power. In these ways, CHP and WHP offer substantial economic and environmental savings. In addition, CHP and WHP help improve the reliability of the grid as they can remain fully operational despite loss of grid power.

There are currently 35 CHP projects in Iowa totaling 630 megawatts.² However, the last installed unit came online in 2010, and the potential for CHP deployment is far greater. In fact, according to a 2010 report by ICF Consulting, nearly three times this amount of energy (1,675 MW) could be produced at the states' manufacturing facilities, hospitals, and universities.³ Such projects would generate enough electricity to power more than 725,000 homes.⁴ By expanding options for net metering and limiting standby tariffs, the IUB can create important incentives to support greater use of these reliable, efficient and economically beneficial technologies in Iowa.

1. The IUB Should Lift the Existing 500 kW Cap on Net-Metering for Distributed Generation.

As we explained in our initial letter, the IUB should expand its net-metering policies to include CHP and WHP among eligible technologies. Currently, only certain distributed-generation resources (e.g., solar PV, wind, biomass, and hydroelectric) qualify for net metering in the state.⁵ Net metering is critical because it allows CHP units to sell excess electricity that they generate on site, improving project economics.⁶ The state should explicitly include CHP and WHP among those technologies that can sell electricity back to the grid. Without net metering, CHP and WHP project developers are forced to enter complicated interconnection and power purchase agreements (PPA), increasing the transaction costs associated with these projects.

CHP and WHP systems are typically designed to satisfy the thermal needs of their host facilities. Where thermal load is high, these systems may produce surplus electricity. In these cases, the ability to sell excess power back to the grid is critical to making the economics of CHP and WHP projects work. Where net metering is not allowed, CHP hosts may opt to undersize their systems to avoid producing surplus electricity. When this occurs, systems are not as efficient. Net metering is thus a simple mechanism by which CHP and WHP projects can maximize their efficiency by sizing systems to meet thermal load while simultaneously improving the financial viability of a project.

² DOE-ICF CHP Installation Database, "Combined Heat and Power Units Located in Iowa" (<http://www.eea-inc.com/chpdata/States/IA.html>).

³ ICF-WADE-USCHPA, 2010, "Effect of a 30 Percent Investment Tax Credit on the Economic Market Potential for Combined Heat and Power," Table 3 and Table 4, on p. 11 and p. 12 respectively (available online at http://www.uschpa.org/files/public/USCHPA%20WADE_ITC_Report_FINAL%20v4.pdf).

⁴ Assuming a typical household uses 11,280 kWh/year / 8,760 hours/year = 1.29 kW/ hhld. (2011, <http://www.eia.gov/tools/faqs/faq.cfm?id=97&t=3>).

⁵ Database of State Incentives for Renewables and Efficiency, February 2013, "Iowa Net Metering" (http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=IA02R&re=0&ee=0).

⁶ Center for Clean Air Policy, July 2013, "Combined Heat and Power for Industrial Revitalization: Policy Solutions to Overcome Barriers and Foster Greater Deployment," at 20 (<http://ccap.org/resource/combined-heat-and-power-for-industrial-revitalization/>).

MidAmerican asserts that net metering should be limited to CHP projects smaller than 500 kW. This cap is too low and would do little to encourage additional deployment in Iowa. Notably, much of the remaining technical potential in Iowa is for projects that exceed the proposed cap. In fact, a May 2013 report for the American Gas Association identified 1,059 MW of potential CHP projects greater than 1000 kW in Iowa – more than one-third the current generating capacity of the state’s coal-fired powered plants.^{7,8} Under the current proposal, these projects would not be eligible for net metering. Allowing net metering for these projects would help create a potential source of revenue and improve project economics. By raising the cap, the IUB would encourage greater deployment of CHP and WHP projects throughout the state.

Notably, a number of other states have net-metering limits that are much more generous than what MidAmerican proposes. For instance, both Florida and Utah allow net metering for CHP customers producing up to 2 MW. Pennsylvania allows net metering for non-residential CHP customers producing up to 3 MW, with even higher limits (5 MW) for emergency systems. What’s more, as discussed further below, in each of these jurisdictions, customers who satisfy these limits are not required to pay standby rates.

Other states are reconsidering discriminatory net-metering policies. For example, Minnesota historically limited net metering to systems with less than 40kW of generation capacity. In 2012, the state legislature raised the limit to 1,000kW.⁹ While we believe that the revised cap remains too limiting, this nonetheless represents an important first step to improving the economics for CHP projects in Minnesota.

In sum, net metering can provide a crucial incentive for many CHP and WHP projects. By allowing larger projects to sell excess energy back to the grid, the IUB can encourage CHP and WHP deployment in Iowa, thereby allowing ratepayers to benefit from the increased grid reliability and efficiency associated with such projects.

2. In Some Circumstances, It May Be Appropriate for Large CHP and WHP Facilities to Be Served By a Standby Tariff.

Net-metering rates and the full-requirements rates to which they are attached already include provisions for a utility to recoup demand-related costs. Consequently, net-metering rates are generally sufficient for customers that fall below the net-metering cap and standby charges

⁷American Gas Association, ICF International, May 2013, “The Opportunity for CHP in the United States,” pp. 32-33 (Tables 7 & 8) (note that estimates given above are for potential projects between 1-100 MW. AGA identifies additional technical potential in Iowa for projects ranging from 50-1000 kW. As such, technical potential for projects exceeding the proposed 500 kW cap exceeds 1,059 MW) (<http://bit.ly/1k97n5t>).

⁸Energy Information Administration, June 2014, State Profile and Energy Estimates (<http://www.eia.gov/state/?sid=ia#tabs-4>).

⁹Sec. 4. Minnesota Statutes 2012, Section 216B.164.3a.

should not be assessed against these customers. Indeed, a utility should not be able to impose standby rates when it can recover its capacity costs through regular rates (including net metering). Allowing utilities to indiscriminately charge both net-metering rates and standby rates to these customers would amount to double charging for capacity-cost recovery. Many states (including Florida, Maryland, Pennsylvania, and Utah) recognize this and exempt net-metering customers from standby rates.

We recognize that for larger CHP systems (i.e., those exceeding the net-metering cap), utilities may incur additional costs to provide occasional supplemental, backup and maintenance services. Where a utility can demonstrate that such residual costs exist, we believe that standby charges are appropriate.

Where standby rates are applied, we support the approach reflected in the recent MidAmerican standby rider. The MidAmerican Energy rate appropriately ties a generator's standby reservation rate to its forced outage rate, assesses daily demand charges for scheduled outages with additional energy charges for unscheduled outages, allows customers to contract for standby capacity that is less than the facility's nameplate capacity, and eliminates ratchets. This approach represents a fair compromise between the utility's interest in recouping costs and the state's desire to encourage CHP and WHP deployment.

Conclusion

We are grateful for the opportunity to comment in this proceeding. We believe that there is great potential to increase deployment of CHP and WHP in Iowa. By allowing net metering for CHP and WHP facilities, raising the existing 500 kW cap on such projects, and restricting duplicative and discriminatory standby rates, the Iowa Utilities Board can help encourage these investments.

Sincerely,



David Gardiner
Executive Director
Alliance for Industrial Efficiency