LUTHER COLLEGE

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Executive Secretary
June 23, 2014
IOWA UTILITIES BOARD
NOI-2014-0001

June 24, 2014

Ms. Brenda Biddle
Iowa Utilities Board
1375 E. Court Avenue, Room 69
Des Moines, IA 50319-0069

Re: Docket No. NOI-2014-0001

Dear Members of the Iowa Utilities Board,

Thank you for the opportunity to comment again on the topic of distributed generation—specifically regarding questions you pose regarding net metering, interconnection, and public safety.

Questions for all participants regarding net metering

We do not feel qualified to address the advantages and disadvantages of feed-in tariffs versus net metering arrangements, nor whether the Board has the authority to expand the net metering rule requirement to rural electric cooperatives and municipal utilities. We do address the cross-subsidization issue to some extent in our initial remarks, and also note that renewable DG system owners provide valuable grid services and other (environmental) benefits for which they are not currently being compensated. Both things are true and the current net metering rule does not really acknowledge or address either.

Questions for electric utility customers

Luther owns three solar photovoltaic (PV) systems (4 kw, 5 kW, and 20 kW), and the college also leases a 280 kW PV array to power a residential complex on campus. All of these facilities are connected to separate meters and make use of Iowa's net metering provision. Alliant Energy is our electric service provider. We have only had positive experiences with these net metering arrangements.

With regard to the advantages and disadvantages of the current net metering rule, we recommended in our initial response that the net metering cap be raised from 500 kW to 5,000 kW. Our request for this ten-fold increase in the cap is not arbitrary, but rather tied to our college's Climate Action Plan and greenhouse gas reduction goals. Ideally, we would like to generate all of the power we consume via distributed generation. Right now this would require power generation from about three wind turbines given our wind resource and current levels of electricity consumption. Luther is the sole investor in one 1,600 kW wind turbine but the power is being sold to our electric utility because we can make more by selling the power than we can by consuming it directly on campus. This is because Iowa's 500 kW net metering cap would only enable us to net meter 31.25% (500/1600) of our wind turbine's annual power generation. Alliant Energy informed us that the rest would have to be

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sold to them at an "inadvertent delivery" rate, which is very low. Increasing the cap to 2,500 kW would enable us to net meter all of the production from our existing turbine. Increasing the cap to 5,000 kW would enable us to net meter all of the production from two additional 1,600 kW turbines, or from one additional 1,600 kW wind turbine as well as a 1,400 kW reciprocating engine in a combined heat and power plant. We thought it would be helpful for you to have this additional information because it provides a rationale behind our request.

We also encouraged the board to expand the current net metering rule to include "virtual net metering." We offered a rationale in our initial filing. We simply want to add here that Luther would welcome and consider an opportunity to invest in renewable energy projects in Decorah, Winneshiek County, or elsewhere in Northeast Iowa where our investment combined with virtual net metering might help make community solar gardens or community wind farms economically viable.

We believe that aggregated metering and limited cash payment for surplus account balances at the end of a twelve month period would encourage additional DG in Iowa, though it might make sense to limit the latter perhaps to 120 percent of total annual consumption.

Questions regarding interconnection

We don't feel qualified to respond to all of these questions but do want to respond specifically to a few of them.

We have every reason to believe that the current interconnection rules assure safety for customers and utility employees. Our wind turbine project, for example, required the installation of an expensive circuit breaker so that we do not backfeed power onto Alliant's distribution grid in the event of a power outage.

It is possible that rule changes may be necessary to ensure continued growth of DG while also maintaining system reliability. Recently Alliant Energy's regional representative for Northeast Iowa, Jim Collins, told the Decorah City Council that Decorah (including Luther College) has more solar systems installed than any other city in Iowa. There are several "feeder" circuits that extend out from the Decorah substation. It is our understanding that there is a state rule that distributed or intermittent generator capacity cannot constitute more than 15 percent of a feeder line's maximum capacity. It is also our understanding that the feeder line that serves Luther College and some neighborhoods nearby has exceeded this limit, and that this has led to higher level and more expensive interconnection studies for some of our neighbors. Alliant has helped clarify the matter and no interconnection requests have thus far been denied based on this 15 percent limit. The question is whether this 15 percent limit constitutes a rule or whether it is merely a guideline. If it is a rule, there may be some wisdom in thinking about whether it should be changed.

We don't feel well-qualified to advise about the correct price to charge for interconnection systems, but it is worth pointing out that a 1,500 kW wind generator will likely produce eight times as much power as a 1,500 kW solar PV array. Given that, it might make sense to charge more to interconnect a similarly sized wind project than a PV project simply because the cost will be more prohibitive for the PV developer than the wind developer.

We also don't feel well-qualified to advise how distribution and transmission upgrade costs should be properly allocated, but we do point out in our initial remarks that DG projects reduce line losses, produce clean or cleaner power, and also often can generate at times of peak demand.

If the Board decides to implement feed-in tariffs, or some form of "value of renewables" pricing that involve long-term, multi-year power purchase contracts, then it may make sense to require owners of such DG systems to commit to remaining interconnected for a specific period of time and to maintain their system in good working order. Such requirements are routine in Power Purchase Agreements (PPAs). It is not clear that this is necessary today for systems that fall under the current 500 kW net metering limit.

We think our wind project was one of the first (if not the first) projects to be reviewed by Alliant Energy under the new interconnection process approved by the Board several years ago. The process worked well, though it did seem to take every day allotted for each stage of review. We had a similar experience with our 280 kW solar project we lease, but no serious problems emerged.

We do not feel qualified to comment on whether the board has jurisdiction to extend its interconnection rules to rural electric cooperatives and municipal utilities.

Questions regarding consumer protection and education

There is a need to educate Iowans about the economics, regulations, and practical aspects of DG projects. Luther's Center for Sustainable Communities has offered some workshops in this area and intends to offer more in the future. The Winneshiek Energy District also offers some resources online. While the Board may not wish to develop a comprehensive list of resources, they might point interested Iowans to other sources for this information at the Iowa Energy Center or others like those mentioned above. It would be helpful, at least, for the Board to develop a checklist for customers as they explore potential investments in DG.

We are not qualified to discuss the issue of fire safety, but would like to note that General Electric invited local fire and rescue workers to a mock accident and worker evacuation from our wind turbine last fall. To our knowledge this exercise was conducted at the initiative of General Electric, but some sort of accident response planning seems necessary for all DG projects. In addition, it would make sense for each utility to send a copy of all DG (not only solar) interconnection agreements to the local fire and rescue departments so that they can have this information on file.

We don't feel qualified to address the adequacy of Iowa consumer protection laws nor the questions regarding certification.

Final questions for all participants

We do not know whether utilities include DG in their resource planning, nor at what rate they are experiencing growth of DG projects in their service territories. Certainly both Alliant Energy and Hawkeye REC have seen significant growth in the last five years.

With the expiration of Alliant's renewable energy rebates, there are no incentives currently offered by Alliant to encourage investments in DG systems. This is unfortunate because soon Alliant will pass along to their customers the costs of building a new gas-fired power plant that, in part, will help meet peak power demands. Solar PV systems are well equipped for peak power production, as are natural gas-fired CHP systems. Peak power is expensive to build. DG systems may offer a lower cost option when sited near significant load sources. It seems to us that it would be in the best interests of all parties for utilities to incentivize such systems. When energy storage systems become cost effective and commercially available, utilities should also incentivize investment in such systems. Excessively high standby rates for CHP projects serve as a disincentive for such investments.

Given the EPA's recent release of its draft rules regarding carbon emissions from power plants that are the backbone of centralized generation, Iowa does need a policy goal to increase and diversify alternate energy production. Renewable portfolio standards have been the primary policy tool used to mandate these investments in other states where most DG facilities are owned by large companies or the utilities themselves. In Germany, feed-in tariffs have led to a more widespread ownership of DG systems. Iowa should strive for a mix of utility-owned and customer-owned DG systems. The declining cost for PV systems will continue to drive customer interest. The increasing amount of EPA regulation will continue to drive utility interest. The Board ultimately represents the interests of the citizens of Iowa rather than the shareholders of the investor-owned utilities. Any policy to increase and diversify alternate energy production needs to value the interest of individual Iowa DG system owners as much or more than the interests of investor-owned utilities.

Thank you for inviting further public input in this docket. Luther College looks forward to additional participation if requested.

Sincerely,

REDACTED

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President

REDACTED

Diane Tacke
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