Written Comments
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Thank you for the opportunity to be a part of this conversation.

My comments discuss electric coops in Iowa and provide some specific examples from the two coops that I work for. First, I would like to share some statistics and explain how we differ from investor owned and municipal utilities. Then, I will share a few of our differences that can be challenging or can provide opportunities for the future of energy and end with an example of how we are utilizing new technology to work smarter not harder.

As you may know, electric coops are not-for profit entities, owned and governed by the members they serve. At Prairie Energy and Franklin REC, both coops are governed by a board of 7 directors, all of whom are member/owners who receive electric service from the coop. This business model has thrived for over 80 years in Iowa.

It is important to begin with some basic statistics about electric coops in Iowa to aid in understanding our distinctiveness. First, we serve member-owners throughout all of Iowa's 99 counties. This make us unique in our geographic footprint. Second, electric coops in Iowa tend to own our own generation and transmission assets along with distribution assets rather than lease. Also, Iowa coops have about $3 billion invested in electric utility plant while we employ over 1,200 people throughout the state to maintain enough distribution electric line to go around the earth's equator more than two and a half times.

The electric coops in this state serve about 650,000 Iowans, roughly 20% of the total population. Our mix of electric sales is more heavily residential than what the investor-owned or municipal utilities serve in Iowa. For example, the IOU and municipal sales are about 30% residential whereas rural electric coops have about 50% of our sales to residential customers. However, one of my cooperatives - Prairie Energy's efforts to build our commercial and industrial load have paid dividends in that Prairie's load more closely resembles an IOU or municipal. In this respect, Prairie Energy is unique from other coops.

Another distinguishing fact is that our members are very spread out geographically versus a municipal or an IOU customer base. Coops average about 3.5 customers per mile of line. The IOUs are at 27 and the municipals are at about 56. Prairie Energy serves approximately 2 members per mile of line and Franklin REC serves approximately 2.3 members per mile of line. The low density and

corresponding lower revenue per mile continue to be a major challenge for coops, not only in the amount of investment it takes to serve them but also in the programs we offer, including energy efficiency.

Iowa's coops have chosen to invest $220 million in cost-effective energy efficiency in the past 30 years. In our current 5-year energy efficiency plan, covering the years 2015-2019, we are expecting to invest about $16 million per year equating to about 2.5% of our retail revenues. This is 1% more than MN statute requires MN utilities to spend 1.5% of their retail revenues.

Another important fact about the coop customer base is that most electric peaks tend to be early in the morning or late in the afternoon. Over the last 5 years, less than 15% of the Iowa coop peaks have fallen in the 8 am to 5 pm window of time, which is the main time frame that solar generates electricity. So while solar brings some value, the value is less to us because of when our member-owners are using their electricity.

Iowa coops have interconnected over 700 renewable generators owned by our members. These generators are in three primary technologies: wind, solar and biomass. At Prairie Energy and Franklin REC, we have interconnected 9 wind and 6 solar generators. We, along with many other electric coops in Iowa, have a streamlined interconnection policy to allow our members to safely interconnect their generators to the electric grid.

If you saw the local Des Moines Register news or nationally on Politico.com two weeks ago, electric coops are leaders in deploying solar technologies throughout Iowa. Each solar project is a unique response to the local needs of the coop members and the community served by the coop. The great thing about keeping the decision-making local is that there are local champions to these projects, which is the key to their success. This is not a one-size-fits-all approach.

Currently, Prairie Energy and Franklin REC are studying possible community solar projects within their service territories. As many of you know, there are many moving parts with a large scale project. The investment for these projects will come from our member-owners so we are taking our time to make sure we invest their money wisely.

There has been a lot of press and criticism about the outdated utility business model. I believe the issue should be more properly framed as: are the existing utility business models obsolete or broken? While the electric industry is facing some challenges and there may be some changes needed in various business models, I believe the electric utility model and the complex electric grid it created are not obsolete! The areas that need fixing can be fixed and those that

are doing well should continue the course. A prime example is the electric coop business model. This model is very consumer-centric and our member satisfaction scores reflect this. ACSI scores from electric coops routinely score in the upper 80s or higher, placing us in the ranks of other respected businesses like Apple, Lexus and Amazon. Clearly, we are doing something right with our local control.

Finally, I would like to take a moment to focus on technology. I talked earlier about the board of directors for electric coops. One thing that is very important to understand about electric coops is that many of the directors on our boards are farmers. You might ask, "So why is this important relative to technology?" If you've had the opportunity to sit in the seat of a newer combine or a tractor, you know that the ag sector has embraced technological innovation to improve performance and yield. Our directors embrace and endorse technology for their own farming operations and this culture extends into our coop board rooms in a positive way. At my coops and many neighboring coops, we are deploying smart grid technologies that provide many benefits to our members while saving them money. At Prairie Energy, our smart grid technology provides usage information that is incorporated with our online platform that allows members to see, in near real time, their daily energy usage.

In closing, Iowa's not-for-profit coops are very engaged in renewable energy development, investing significant amounts of resources in energy efficiency. Our corporate culture embraces technology and innovation, and we are committed to serving our member-owners with local solutions to power their lives and our communities. The electric coops of Iowa are committed to providing power that is safe, affordable, reliable, and environmentally responsible. Our wholesale generation and transmission coops from whom we purchase our power have long been leaders in these areas.

Each coop is unique and was created to serve the needs of its own member/owners. If we are to continue providing essential electric service to Rural America now and into the future, our G&Ts need flexibility and time to adapt to new regulations. To that end, as you develop federal energy policy, I urge you to keep the "how" of accomplishing federal goals at the local level.

Responses to Possible Moderator Questions

Panel 2

Electricity Distribution and End-Use: How Do We Manage Challenges and Opportunities?

1. What do you see as the top three distribution and/or end-use issues are for your sector in the near-term? In the far-term -- out to 2040?

   The cooperative mission is to provide affordable, safe, and reliable power in a manner that appropriately takes into account environmental concerns.

   Our top concern in the near-term and far-tem will always be controlling our costs because that ultimately drives our rates. We must keep our electric rates affordable to attract business and industry to Rural America and America in general. I believe we must be realistic that we cannot afford to continue to outsource jobs to other countries. Cost control is a constant challenge and has increased with the outside impacts of regulatory and legislative mandates.

   Another near-term issue is the attempt to shift from a cost to serve approach to rate development to a value based approach for only one or two energy technologies. We continue to see a push for a value of solar approach to pricing. If value pricing is the best method for rate development, it should be used for rate development for all energy technologies (coal, gas, wind, biomass, etc.) not just for solar.

   The third near-term issue is regulation that interferes with fuel choice. Coops are leaders in renewables. We are not simply watching from the sidelines but are actively pursuing renewables that meet our member/owners needs at an affordable price. Power plants are long-term assets that come with a high price tag. When the federal government banned building natural gas plants, the viable and affordable technology was coal plants. Coops, like many utilities, built the plants to last 50 plus years. Recently, we have invested in large capital improvements to meet environmental guidelines. If we are not allowed to run these plants until those costs are recovered, we have significant stranded costs. Since we do not have shareholders, those costs will have to be paid by our member/owners.

2. How are your members dealing with the evolving nature of the distribution and end-use sector?

   Perhaps the best measurement of this is the consumer satisfaction surveys. ACSI scores from electric co-ops routinely score in the upper 80s or higher, placing us in the ranks of other respected businesses like Apple,

Lexus and Amazon. Clearly, we are doing something right with our local control.

3. Are we properly valuing distribution and end-use resources? If not, what should change?

   The electric industry has had a long standing policy of determining prices or rates based on the cost of service. Federal energy policy through the Public Utilities Regulatory Policy Act of 1978 and long standing policy at the state level encourages if not requires electric utilities to use the cost to serve principle in setting prices. It seems if we are moving to a value proposition in lieu of a cost principle then this should apply to all resources not just some technologies.

   We have realized in Iowa that small installation of renewables at member/owners homes do not have a great value for the coop or the member/owner who owns the system. Like other generation sources, size and location drive true value to the grid, the coop and the member/owners. Thus, electric coops have successfully lobbied for incentives (instead of mandates) for utility-owned solar. We believe we can best develop the solar resources that will be of the most benefit to the environment by following the methods used to develop the strong wind presence in Iowa and other Midwest states. The benefits only happen when the resources stay connected to the electric grid.

4. How should state or Federal regulation, if at all, change and adapt for the evolving changes we are seeing?

   Federal and state policy need to focus on matching up supply and demand and be sensitive to incentives or mandates that do not match supply and demand. Policies need to take into account affordability, reliability, safety and environmental issues.

   If the goal of state and Federal regulation is quick adoption of innovation, then the permitting process involved with the innovative technologies must be reviewed. Regardless if we are building renewables or our G&T's are building transmission, local, state and federal permitting is rather onerous and takes a significant amount of time. We simply cannot innovate or adopt new innovations as quickly because of some of these regulations.

Again, state and federal regulation must keep in mind that these are long lived assets that we are building. We cannot change without stranding assets and costs. This again will cause rate increases.

5. How are business models, either for the distribution function of utilities, or for companies selling into distribution/end-use, evolving and changing?

   My first response to this question is a question. Who is asking for business models to change. My member/owners are not asking for this and ultimately, a business must satisfy its customers (which for me is my member/owners).

   That said, I am glad to see this question framed around evolution and needing change and not about being obsolete. The existing electric utility business models developed the electric grid – one of the most complex inventions of our time. Evolution in some models may be necessary but we would be remiss to start over.

   In the end, business models need to take into account the customer's needs. We believe the cooperative business model provides us with an excellent foundation for the future. Again, look to our customer satisfaction results. We do not need to throw the baby out with the bath water. Yes, there may need to be some changes along the way but our model does a pretty good job of soliciting on consumers input through our governance, local presence and community involvement into providing the types and quality of services they expect.

6. Bulk power and distribution/end-use traditionally have treated each other as "black boxes" in utility planning and operations. But that seems to be changing in several aspects that may be leading to, say, a hybrid system, in some regions. How is your sector responding to this change?

   Cooperatives are based on seven cooperative principles. One of those principles is cooperation among cooperatives. Since before I came into the electric cooperative business, the G&T's and distributions coops have worked side-by-side to develop load forecasts. We review our load forecasts annually and update them bi-annually. We haven't done planning in "silos" or "black boxes."

   In regards to distributed resources, we agree that there is a concern that they do not bring Var support, system inertia or frequency response to the table. There needs to be continued studies in all of these areas to insure

that the grid is still reliable as those components inherent in baseload and intermediate generation decline in availability.

7. Cybersecurity, physical security, and resiliency: are we doing enough here?

   This question is a challenge to answer because I do not know what the DOE or federal government's ultimate goal is. Is the goal to eliminate all risk or reduce it to an acceptable level? I believe it is cost prohibitive to eliminate all risk so my response will assume the goal is to reduce to an acceptable level. This is similar to how we built the electric grid. It was too cost prohibitive to eliminate all outages but we built and continue to improve it so outages are kept to an acceptable minimum.

   We are taking serious measures for cybersecurity as well as physical security. Security is constantly changing, especially cybersecurity. Locally, we are investing in training for our employees to recognize attempts for cyber breaches as a preventative measure. It is important to note that the electric industry is the only industry that is already subject to mandatory rules. We are following and sometimes exceeding the requirements these cybersecurity rules.

   Realistically, we recognize that we can never prevent every risk. This is just too expensive and the risks are constantly changing and evolving. It is statistically probable that some attack will get through. Ultimately, our efforts are based on what is deemed reasonable and affordable.

   The subject of EMP's was brought forward at one of my annual meetings last year. We are doing our best to protect our system from such attacks. Again, we are following or exceeding the rules.

8. How does the discussion we have had so far, change, if any, for states that do and don't allow retail competition?

   Retail competition in the traditional sense is competition driven by a policy change. The industry is also facing competition by technological changes through solar and other technologies. Each of these forms of competition bring a different set of challenges similar in some respects but yet different in other respects.

9. Are we getting the right amount of innovation needed for the coming decades?

Times in the energy sector are very exciting and will be for the foreseeable years to come with the changes we are facing. We will continue to see innovation at all levels of this business. I am not quite sure how one should or could go about measuring the amount of innovation let alone measuring whether it is at the right level.

Ultimately, we provide a service to our member/owners. If we are providing affordable and reliable service, we should be using the right amount of innovation. If they are no longer satisfied, we are not being innovative enough. Again, the challenge for me is how do your value what is the right amount of innovation. In this day of smart phones and apps, I thing you would be hard pressed to find an app for that.

10. Where is the consumer in all this, including affordability?

Availability and reliability are two very import aspects of quality of service and the quality of life. Certainly affordability is near the top of the list for consumers as well and we, along with policy makers at the local, state and federal level, need to balance these aspects of providing energy services.

Reliability and affordability are two of the themes that Iowa is hearing from our commercial and industrial participants in the development of our state energy plan. To grow Rural America, we need to keep the needs of our C&I member/owners in mind also. I would rank availability as the third priority for C&I member/owners.

11. Are there any changes in Federal executive branch actions, or Federal legislation your sector wishes?

Electric Cooperative continue to advocate for an all of the above approach to policies related to electric generation. We also advocate for policies that allow for us to deliver reliable, affordable, safe and environmentally responsible energy. Again keep in mind the areas electric cooperatives serve have customers that are very spread out in rural areas that have a whole different set of economics associated with providing electric service. Co-ops average about 3.5 customers per mile of line. The IOUs are at 27 and the municipals are at about 56. Prairie Energy serves approximately 2 members per mile of line and Franklin REC serves approximately 2.3 members per mile of line The lower revenue per mile and low density continues to be a major challenge for co-ops. A one size fits all approach does not work very well for cooperatives.