



## **Working Group 4: Customer and Community Participation**

Meeting No. 4

June 5, 2018

### **MEETING SUMMARY**

*[Note: descriptions of comments and discussion are condensed summaries and paraphrases]*

#### **Agenda Item I: Introduction**

Working Group Leader Marty Cohen welcomed participants and noted that the meeting would include presentations about the perspective of very large volume Illinois electricity customers by Mike Hackworthy, Manufacturing Systems Development Manager at Charter Dura-Bar, York Chan, Vice-President of Facilities Services at Advocate Health, and Colleen M. Schmiede, VP Operations, Real Estate, Northwestern Memorial HealthCare. Cohen said this was the last of four scheduled meetings and a fifth meeting might be subsequently added to the agenda if working group participants believed there were a need for further information and discussion.

#### **Agenda Item II: Participant Introductions**

WG4 Members in attendance at the ICC and on the phone/Webex and other attendees who wished to do so introduced themselves and identified organizations they represent.

#### **Agenda Item III: Presentations**

*[Note: The following summaries of presentations are condensed and paraphrased. Presentation decks are available on the working group shared drive and will be publicly available on the commission NextGrid website. Dura-Bar requested that only a non-proprietary redacted version of Mr. Hackworthy's presentation be posted.]*

Presentation #1: "The Perspective of an Over 10MW Electricity Customer in Northern Illinois" presented by Mike Hackworthy, Manufacturing Systems Development Manager at Charter Dura-Bar.

In summary:

Mr. Hackworthy presented an overview of Charter Dura-Bar, a manufacturer of continuous cast iron bar stock and other products, founded in Skokie Illinois in 1947 and presently headquartered in Woodstock Illinois, with locations in three other states and operating internationally. He invited participants to visit

the Charter Dura-Bar website at [www.charterdura-bar.com](http://www.charterdura-bar.com). He described the size of the company in terms of workforce, taxes paid, and electricity usage as a member of the largest demand sub-class of the industrial customer class, the Extra-Large Load, ELL class including customers with load above 10MW. There are only 70 to 80 ComEd customers of this size, and they are all sophisticated energy managers.

Mr. Hackworthy summarized the energy efficiency investments made by Charter Dura-Bar and the presence of significant on-site natural gas-fired self-generation capacity, as well as the company's participation in demand response activities. He said the company is examining significant capital investment and expansion and is evaluating the potential of adding on-site solar capacity to its self-generation portfolio. EH asserts that these investments benefit all customers through their effects on wholesale markets.

Small volume and large volume customers share some core views, as both need reliable service at the lowest possible cost and both have spending priorities competing for limited resources. These considerations are particularly important for a large industrial customer competing in global markets. Very large customers are different from small customers in that they have been charged for energy efficiency programs of little or no use to them (which has been addressed in the FEJA which exempts them from participating and paying for EE) and they are allocated costs for elements of service, such as low-voltage distribution system wires, which they do not use. Of particular concern at this time is that, although total costs of electricity have remained relatively low, the proportion of those costs made up of non-bypassable charges has risen. These charges include renewable energy premiums, nuclear plant subsidies, capacity rate increases and delivery service increases through the legislated formula rate process. Although the company has seen a 36% decrease in wholesale commodity electricity costs since 2014, it has experienced a 237% increase in delivery service costs since 2005. In the company's view, this has not resulted in material improvement in service sufficient to justify additional outlays and it incentivizes customers to make less use of the grid. Mr. Hackworthy asserted that there is a lack of transparency by utilities in ratemaking and cost allocation that has frustrated large volume customers, who should be seen not just as customers to be serviced but as strategic partners with utilities in grid modernization. The same strict cost-benefit hurdles that competitive companies apply to their spending decisions should be applied to any future utility investments in order to cost-effectively deliver value to customers. Whenever there is a problem to address, the first question should be whether or not there is a competitive market-based solution.

Mr. Hackworthy suggested that guiding principles for NextGrid decisions should include transparency, accurate price signals and cost allocation to cost causers, full compensation to customers for value they provide to the grid, and rate certainty going forward -- all without a preference for any particular model, which should be evaluated based on the value it can provide to customers.

Presentation #2: "Hospitals and Electrical Reliability," presented by York Chan, Vice-President Facilities Services, Advocate Health Care. In summary:

Advocate Health Care is Illinois' largest healthcare provider and has a system of 12 acute care hospitals, now including 356 sites and 7 trauma centers occupying a total of 15 million square feet. Healthcare is an energy-intensive business and Advocate consumes 231 million kWh of electricity annually. They employ a full-time sustainability manager and an energy manager to focus on reducing usage, which fell by 2.1% in 2017, with a goal of 20% reduction by 2020. Hospital use 2.7 times more energy than an average commercial customer, with the only other identifiable customer using more energy per square foot being fast food purveyors. Notably, the average US hospital uses 260,000 btu/sq ft versus an average European hospital usage of 150,000 btu/sq ft, indicating opportunities for improved energy efficiency.

Very few hospitals have self-generation, which is not their core business, though they all have backup energy for emergencies. However, only two hospitals in Illinois are 100% backed up. Therefore, the number one energy concern for hospitals is reliability, with any outage having potentially severe or catastrophic consequences. Hospitals are electrified, and all new technology such as robotic surgery, remote monitoring and diagnostics, and a variety of life-saving equipment are dependent on reliable electricity with high power quality. High-tech equipment is very susceptible to power bumps, spikes and voltage fluctuations and interior environments must be maintained at optimal temperature, humidity and pressurization to optimize health and avoid hospital-acquired infections, which is a central challenge to quality healthcare. Because clinical outcomes affect patient satisfaction and how hospitals are compensated, electric reliability can also impact finances. The bottom line for hospital facilities is that electrical reliability is an essential component of quality healthcare provision.

Presentation #3: By Colleen m. Schmiede, Vice-President of Operations, Real Estate, Northwestern Memorial Healthcare. In summary:

Northwestern Memorial Healthcare is another large Illinois system, with seven hospitals and more than 400 sites with a total annual electricity cost exceeding \$20 million. Because predictability and certainty of costs is important, they contract out for supply several years in advance, using retail market suppliers. Ms. Schmiede agrees with points made by Mr. Chan regarding the essential and crucial nature of reliable electricity service to healthcare providers. That also means that distribution systems should have as much flexibility as possible so that different substations can deliver power to a crucial facility in the event of an outage at one location – redundancy is a key to reliability.

Northwestern participates in sustainability efforts including demand response. Making decisions as to what to cut back or shut down involves a challenging set of considerations but there is usually something that can be dialed back to reduce peak consumption when called upon. One of the hospitals does cogenerate and they are looking at the cost-effectiveness of battery storage technology. Microgrid participation is also under study, as the isolation and self-generation and storage possibilities should reduce risk of sustained outages that are catastrophic to hospitals. However, the costs may be prohibitive for the hospital itself to undertake. Healthcare facilities would benefit from improved incentive programs for energy management and participation, as these are critical facilities for public health and safety and deserving of support.

#### **Agenda Item IV: Discussion among presenters and members**

Working Group Leader Cohen invited participants to ask questions and make comments regarding issues raised by the presentations. A discussion ensued about large customer issues, which included the following points:

- The large industrials say that they need reliability and the grid is central to that, yet they also say that they are increasingly self-sufficient and not in need of the same level of services as small customers. How is the line drawn for what is appropriate level of service to be paid for.
- In the view of the large industrials, they should pay for what they need – reliable delivery of power at high voltage – and not for services and equipment they don't need. They shouldn't be subsidizing the grid for other users. It is a matter of allocating costs more fairly, as they believe too much is allocated to them. As large employers, their savings are reflected in jobs, taxes, and other community benefits they provide.

- All customers believe too many costs are allocated to them; this is the nature of the ongoing rate design and allocation cases conducted every three years under current law. A question for nextgrid consideration is how the future will be different.
- Costs are a big factor for all large users, not just industrials. Margins in healthcare are quite small – 2.1% at Advocate last year – and with energy a high cost every dollar saved is important.
- But hospitals have other high costs and energy does not represent as high a proportion of costs as for large industrial customers. In general, electricity represents 1% of hospital overall costs. For large industrials the percentage is higher as energy often is in the top three costs, after labor and materials. Focused energy management and investment can bring it down to top five costs.
- Reliability of service for hospitals has improved in recent years, as ComEd understands the importance, has been responsive to hospital concerns and has worked with them on improving service.
- Hospitals are working to ensure that in no case would an outage again require evacuation, as it did after a flood in Lake Forest. Utilities are part of that effort.
- One hospital has installed a heat pump system operating with a pond, that has proven to be a high maintenance way to attempt to reduce long-term costs and support sustainability. It has not been implemented at other facilities and is not a technology that hospitals generally want to focus attention on because it is not part of their core mission or competency.
- NextGrid is focused on the long term and premised on a projection that the energy system will be different for customers of all sizes due to new technologies and behaviors and opportunities; investment is likely to be needed to use these opportunities.
- All businesses are focused on growth but utilities should only grow in directions that benefit customers. Smart manufacturing is growth through bringing state of the art connected devices and big data to bear on processes. Electrification is part of solutions to minimize costs. Technologies will be needed for growth – doubling business volume while limiting need for additional staff. Automation and new processes use more energy and less people, which is required to compete globally.
- Every customer pays for RPS because everybody benefits from it. And there are benefits beyond environmental and job creation; wind power at night is one reason wholesale market energy prices go so low or even negative, which particularly benefits large overnight users such as 24-hour manufacturing facilities.
- But there has always been excess power at night, such as the low-cost nuke power in the 1980s, a function of having baseload that runs all the time.
- Hospitals around the country are involved in sustainability but it has to be cost-effective; have looked at installing solar and wind but the numbers don't yet justify it and it doesn't improve reliability, the number one concern. We are looking at storage, which has great potential, but hospitals don't want to be test cases for non-medical technology. Very hard to justify until costs come down.
- Healthcare spending is double that of Canada and must be reduced so new energy technologies to do that will be used when they are proven to save money.
- 20% additional energy savings by 2020 is a very ambitious goal for Advocate. Strategy to get there must include behavioral changes as well as technology; we have create a 150 item check list of operational changes that don't involve investment before looking at EE upgrades. We need ROI sufficient for payback in three to four years to make energy investments; savings go to

the bottom line; need better incentives but because of total size of all facilities the new law exempts them from EE programs.

- While automation affects healthcare and new technologies are being used, it is not like manufacturing; less than 5% of healthcare labor can be automated, though workforce will require tech skills.
- Utilities are required to be transparent and provide information. Disagreement with view that decisions and regulation are not visible or open: Formula rate plan is published and a docketed proceeding conducted annually, with participation by parties including large customer representatives. Rate plan was legislated so that smart grid technology could be deployed. Certain issues no longer subject to extensive litigation but rates remain overseen by ICC and cost allocations fully litigated in triennial reviews.

#### **Agenda Item V: Next Steps**

Cohen stated that the next step in the WG4 process would be for participants to submit “3P” proposals as had been discussed previously. Each member is invited to propose three programs, policies, or pilots to address identified issues affecting customers and communities in an era characterized by the opportunities and challenges enabled by new and emerging technologies including distributed energy resources, electrification, and granular smart grid data. These submissions will be combined and circulated to the group before the next and final meeting, which is not scheduled but will be targeted for late July. That meeting will discuss the draft chapter outline and the draft WG4 report to be initially written by the working group leader and then subject to comments and editing suggestions by the group.

A discussion ensued about the 3P proposals. A stakeholder suggested that the first question answered by submissions should be whether there is a competitive market solution for any identified policy issue. Another suggested that there should be identification of market failures and identification of market barriers. Another suggested that who pays for any proposals should be included. Another questioned whether solutions that go beyond distribution system issues would be considered. Another questioned whether utilities would be the source of pilots and programs or whether other providers would be included. Cohen responded that all 3P ideas would be welcome, provided they pertained to customers and communities, were related to state jurisdiction and, instead of relitigation of past issues, were in keeping with the forward-looking nature of the NextGrid study. In response to a question as to how the 3Ps would be used, Cohen replied that the submissions would be an input into his initial draft of the WG report.

The meeting was adjourned at 3:30 PM.