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TO: Matthew Olson P.E.
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FROM: The Building Owners and Managers Association of Chicago
(Submitted by Ron Tabaczynski and Michael Munson)

DATE: June 7, 2018

RE: Comments for NextGrid Illinois Working Group 2: Metering, Communications and Data

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BOMA/Chicago is a trade association that has represented the interests of the Chicago office building industry since 1902. Membership includes 239 commercial office, institutional and public buildings and 169 companies that provide commercial building services to support operational excellence. BOMA/Chicago members constitute approximately 80 percent of all rentable office space and more than 98 percent of rentable space in Class A buildings downtown.

As early innovators and adopters of Smart Grid concepts during the successful transition to a competitive marketplace in Illinois, BOMA/Chicago seeks to provide its perspective to the Next Grid Illinois Working Group 2: Metering, Communications and Data.

BOMA/Chicago has devoted significant time and effort to furthering data access for customers, and has applied some of its lessons learned to assist policymakers in understanding that consumers' access to information is the fundamental building block to a true Next Grid. Only after consumers have access to information in a manner that ensures ease of use will the widespread adoption and innovation of a true Next Grid be realized.

BOMA/Chicago shares the common goals of providing all consumers with the information needed to control and optimize their energy use in a manner that ensures ease of use, widespread adoption, and innovation. As an advocate for enabling innovation, information access and competition for new products and services, BOMA/Chicago buildings exist in a competitive environment that fosters efficiency in operations and equipment.

After reviewing the meeting materials and summaries provided by Working Group 2, we appreciate the opportunity to provide the following comments for consideration in the Final Report.

Meter Capabilities and Functions

Smart metering capabilities vary significantly. Dictating a one-size-fits-all approach to the device's interval of time recorded for usage (e.g., hourly, fifteen minute, sub-minute), of data transfer (e.g., per

billing cycle, next day, next hour, streaming), the type of pricing data available (e.g., tariff, retail, wholesale, emissions), and the control options (e.g., capacity markets, energy markets, retail markets, etc) does not meet the needs of a modern user of the NextGrid. In addition, the relative sophistication and technological improvements of metering infrastructure necessitates that consumers have additional options and not be subjected to unnecessary risks of technological obsolescence.

It is important to differentiate utility from competitive functions. It is apparent that consumers require information in order to make decisions; the better the information, the more informed the decision. Simple, unfettered access must be available to the consumer in order for a true Next Grid to be realized. The more efficiency of the transfer of information should dictate pre-conceived gateways for information access.

Regulated, utility functions vary significantly. A one-size-fits-all requirement, in effect, provides a classic barrier to entry into information and market functions of consumers. Analyses of usage data, price data and demand response strategies may be unnecessarily narrowed prohibiting other potential solutions. The differentiation between regional and local rules, regulation structures, organized transmission organization regions, generation capabilities, and market access rules complicate mandating a single gateway for information transfer. To the extent AMI metering is implemented, the ability of consumers to access their usage information enables a true NextGrid.

Meters, Infrastructure, and Communication

A customer's meter should not be the *primary* gateway for all usage data, price data, and demand response signals. The relative sophistication of a meter varies significantly. While necessary for some utility functions such as usage measurement and utility billing, it is imperative that the meter not act as a classic barrier to entry prohibiting consumers' involvement in making choices regarding their own energy use. Bestowing the meter as the primary gateway to consumers, unnecessarily limits consumers' abilities to control their usage in response to price signals.

Recognizing other means of information access and data transfer (e.g., the Internet) would not only provide consumers with increased access to information, but also foster and develop the ability of consumers to evaluate and implement appropriate solutions. Having multiple options for goods and services directly related to increased information access should not be limited by how, where and when information is accessible.

In some service territories, utility-revenue metering provides the basis for settlement in many retail and wholesale electricity markets. Additionally, third-party metering and sub-metering options are prevalent. At a minimum, a smart, or AMI, meter must provide usage information to the consumer and its authorized third parties. Mandating the utility meter as the "primary" gateway reduces consumers' access to competitive markets and services that are technically and commercially supported.

Using the meter as the primary gateway would severely limit consumers' control over their own facilities. Defining the smart meter as the "primary gateway" for energy usage data, price data, and demand response signals implies that the meter will be the only viable information-exchange point for both outgoing and incoming information. Therefore, the meter itself provides a demarcation point for the line between monopoly and market functions. It seems advisable to clearly delineate between regulated and non-regulated functions before mandating the supplier of the only tool reasonably available to consumers. Unnecessarily hampering consumers' ability to control their own load through means other than the meter severely limits consumer options to respond to applicable signals.

With only the smart meter as the nexus between the customer and the market, the utility alone would control the customer's ability to access information and data. Utilities, who typically own the meters yet charge customers for their use, would be in a unique position to implement standards for usage data, while not providing the same technology that would be available in the competitive market. A competitive marketplace can provide innovation from the demand side of the meter far more efficiently than a utility will be able to. Furthermore, the price will end up being lower to all consumers, so long as robust and useful information is available and transferable.

There are technologies that are more advanced than the smart meter and will cost far less to produce, especially considering many of the possibilities—like the Internet—are already in existence.

Access to Additional Data

Commercial Buildings in Chicago have a requirement by the City of Chicago's Benchmarking Ordinance to provide whole building data to the City for publication. The data currently used is gathered from EPA's Energy Star Portfolio Manager which collects data monthly. While this data is functional for the City of Chicago's purposes, once a month intervals may not provide much useful information from an operations perspective.

For example, stating that the average temperature in March in Chicago is 45 degrees, does not capture the swings Chicago weather can bring (e.g. 5 degrees to 75 degrees). Since generally buildings have a "building account" with ComEd that meters common area equipment like HVAC, elevators and common area lighting, the hundreds of tenants in any building are separately metered and basically cover plug and lighting load. However, some tenants may have servers in spaces with heavier usage and load, and this information could be useful to building operators on a more robust schedule.

Furthermore, many demand response programs in PJM require whole building data to prove that electricity consumed in a building was not displaced from another meter. With the advent of AMI in buildings, the proliferation of data is available, but the ability to properly access such data is fairly difficult due to traditional regulations and the problematic issue of confidentiality of customer data. For those buildings that experience changes in voltage, easy access to that information could be useful as well.

Data Access, Consumers and Third Parties

A default standardization model for consumers' usage information access provides more usefulness as a policy objective. Consumers' access to their own usage data is the first step towards any further discussion of competitive choice functionality in energy efficiency, supply options, and demand response participation. At a minimum, all consumers and their authorized third-party service providers must have simple access to usage information. Ideally, consumers should have incremental real-time information access in a manner that meets market requirements.

Under any scenario, consumers and third-party service providers should have the same access as that of the utility. Unlike the utility, consumers and third-party suppliers may require more robust or additional information that the utility may not provide or may not be capable of providing. Extending monopoly status to electric utilities by bestowing the smart meter and the utility network as the primary gateway for consumers effectively creates a classic barrier to entry for other stakeholders seeking to participate in the NextGrid environment.

The ICC should state that consumers own their own energy usage data. Consumer ownership of information regarding energy use is axiomatic. Any other parties, whether they be the utility, a third-party

provider, or a demand-response firm, can only use the data for limited, distinct, authorized purposes, such as billing or automation.

Furthermore, consumers and their authorized service providers must be able to access their own energy usage data. This is equally self-evident.

Any policy decision-making must take into account the integration of customers into the electric grid to yield immediate and long-term results in reducing emissions, in spurning economic development and in improving reliability and value. To achieve optimal results, consumers require ease of access to information in order to control and use energy in the most efficient manner.

Certainly not all consumers will want, use or have the ability to use this information; equally certain, this fact alone should not be dispositive of providing access to information to all consumers, particularly when consumers are paying the freight. Unmistakably, low income and disinterested consumers should have access to their own information. But this also should encourage other customers to become more efficient as such efforts, taken in concert, act to lower all consumers' energy bills, by lowering, for example, the need for additional inefficient and pollutant generation to be constructed or expensive additional transmission or distribution infrastructure additions.

Additional access by consumers and third parties will enable competitive development around expanded usage data, facilitate the ability to evaluate and implement all business models on their respective merits, and open the door for greater participation by consumers in implementing distributed energy resources (DER) and in participating in applicable efficiency, supply procurement, and demand response programs. Enabling some access to utility networks (such as read only access) limits the barrier of the information gatekeeper that may not have, or cannot always have, the consumers' best interests when making decisions. Thus, ensuring the utility network to only be available to the incumbent utility would put all of the information going into and out of a home or business in the hands of the electric utility, at significant real and lost opportunity costs to the consumer. Under any scenario, it is the consumer that should have the option to use its own information as it deems fit, as it is precisely the consumer who must absorb the costs and risks of the utilities' investment in metering infrastructure.

Consumers should not be limited in their own homes or businesses as to the mode and type of technology infrastructure improvements. At present, consumers can already acquire pricing information from a variety of sources (e.g., PJM.com). With more robust usage information and the ability to transfer better information, it seems likely that additional resources will become available for pricing data and control options.

Realizing the Energy Efficiency Value of Real Time Data

Today, many large commercial buildings are self-contained building automation systems (BAS) acting essentially as localized Smart Grids with the ability to measure, verify and control operations efficiently. It seems inevitable that smaller customers can achieve similar results through enabling information access so that all consumers have the ability to participate and contribute to grid functions. Accordingly, it is tantamount that barriers to information access not be constructed at the inception of innovation and technology advances.

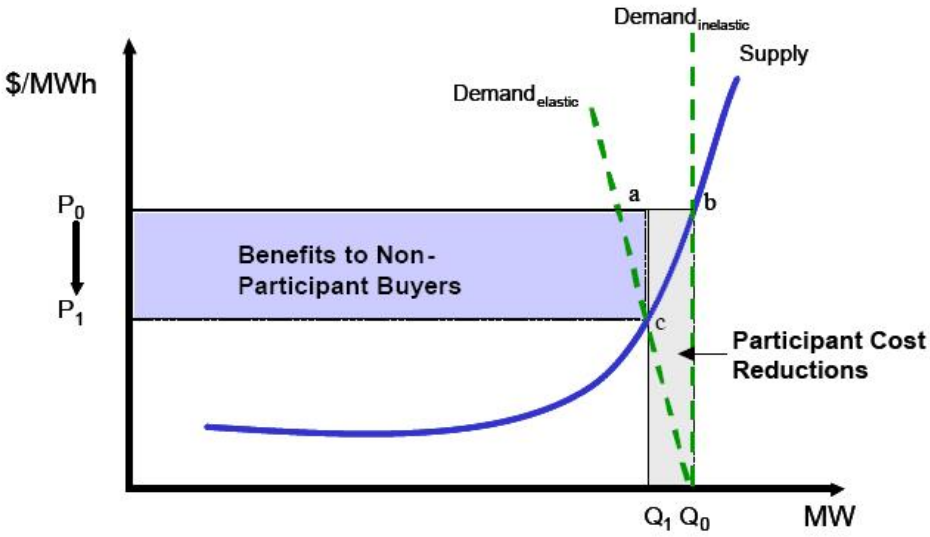
BAS should have an easy connection to real-time usage information. Today, it is difficult for a large commercial building to access all the meters in the building to have the information to make operational decisions. With AMI, the solution to provide buildings with access to the network provides for a much easier dissemination of information structure. By having the information in an open but secure

environment, not only will commercial building operators be able to decide how to respond to price signals, but a competitive market can develop around the availability of this information. A robust competitive market already exists in the industry with the proliferation of energy service companies from the small non-profit organizations to large publicly-traded energy service companies. Establishing monopoly providers of electric service as the gatekeepers of information effectively impedes the development of innovations related to integrating price, use and markets.

Accordingly, any rules should be constructed to enable and not dictate technology. At minimum, any information acquired or accumulated by the smart meter must be made available to consumers in a non-discriminatory fashion.

Consumer Choice and Participation

All consumers should have the ability to choose whether to participate in programs and activities related to the Grid. For low-income consumers, reliable information transfer becomes crucial as consumers with the means to affect their own load and usage patterns, necessarily affect all consumers in the region, presuming the portfolio of participants is at a scale to do so. This is well accepted in the electric utility industry as supply curve participation.[1] In the graph below, consumers that act in concert can improve the electric supply curve (by introducing competitive resources into the daily mix), clip electric price spikes (because demand response capacity is a function of market price), and put a floor on electric prices (because consumer demand response exits the market when prices drop).[2]



The efforts of a portion of consumers to shift electric loads benefit all consumers in a region. Low-income customers can become contingent beneficiaries of other consumer actions, and therefore should support such efforts to the extent reasonable.

[1] U.S. Department of Energy, *Benefits of Demand Response and Recommendations*, February 2006.
[2] Kathan, David, *Policy and Technical Issues Associated with ISO Demand Response Programs*, The National Association of Regulatory Utility Commissioners, July 2002.