October 15, 2019

VIA ELECTRONIC FILING
Mr. Daniel Wolf, Executive Secretary

Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Re: Docket E,G-999/M-19-505 In the Matter of a Petition by Citizens Utility Board of Minnesota to Adopt Open Access Data Standards

Dear Mr. Wolf,

Clean Energy Economy Minnesota (CEEM) respectfully submits these comments on Citizen Utility Board of Minneota's Petition to Adopt Open Access Data Standards. Our mission at CEEM is to provide educational leadership, collaboration, and policy analysis that accelerates clean energy market growth and smart energy policies. We work to support and expand clean energy jobs and the economic opportunities provided by clean, reliable, and affordable energy on behalf of all Minnesotans.

On August 22, 2019, the Minnesota Public Utilities Commission requested comments on CUB Minnesota's Petition. Our comments respond to the questions posed in the Notice of Comment Period.

Please feel free to contact us with any questions that you may have. We hope that the comments below provide you with useful insights.

Regards,

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State of Minnesota

Before the

Minnesota Public Utilities Commission

In the Matter of a Petition by Citizens Utility Board of Minnesota to Adopt Open Access Data Standards	Docket ExG-999/M-19-505 COMMENTS

Introduction

Clean Energy Economy Minnesota (CEEM) appreciates the opportunity to provide these comments in response to the Minnesota Public Utilities Commission's (hereafter PUC or Commission) Notice of Comment Period on August 22, 2019 on Citizen Utility Board of Minnesota's (hereafter CUB or CUB MN) Petition to Adopt Open Access Data Standards.

CEEM is a 501(c)(3) organization whose mission is to provide educational leadership, collaboration, and policy analysis that accelerates clean energy market growth and smart energy policies. CEEM works to support and expand clean energy jobs and the economic opportunities provided by clean, reliable, and affordable energy on behalf of all Minnesotans. We are focused on sharing the stories and perspectives of clean energy businesses and employees, and are committed to working across industries and political divides to support a prosperous economy for Minnesotans.

CEEM is fueled by support of our member businesses, partners, and individuals working across Minnesota's sustainable energy economy. CEEM's members and partners represent a wide array of businesses providing and seeking energy solutions, and across energy technologies and business models. CEEM membership includes businesses that provide solutions to regulated utilities, helping them achieve their objectives; and businesses that could provide energy services outside of utility programs.

CEEM staff has significant experience in participating in regulatory reform, grid modernization, and "utility of the future" discussion and regulatory proceedings across the country, including discussions on the regulatory role(s) related to energy usage data.

Comments

CEEM supports the concepts presented in CUB MN's proposal for Open Data Access Standards. Data is vital to the clean energy economy. CEEM supports access to energy data that better informs energy usage and investment in clean energy options. A modern grid relies on the availability of energy usage data. Policy and regulatory objectives related to facilitating customer empowerment, promoting efficient system investments (by both regulated utilities and their customers), and enabling new products and services rely on the availability of customer energy usage data; particularly at a level of aggregation that attracts appropriate solutions.

Minnesota continues to lead discussions about changes to energy consumers, establishing several planning and regulatory mechanisms, including the discussions from the series of Grid Modernization workshops (2015-2016), previous data privacy proceedings (12-1344), increased system transparency in

distribution planning data[1], amongst other proceedings. We commend Minnesota and the Commission for this vision and leadership, and we greatly appreciate the opportunity to engage in this proceeding.

The Minnesota PUC is viewed as a national leader in regulatory efforts related to the potential for customers. The Commission Staff proposed a definition of a modern grid in 2016 as follows:

> "A modernized grid assures continued safe, reliable, and resilient utility network operations, and enables Minnesota to meet its energy policy goals, including the integration of variable renewable electricity sources and distributed energy resources. An integrated, modern grid provides for greater system efficiency and greater utilization of grid assets, enables the development of new products and services, provides customers with necessary information and tools to enable their energy choices, and supports a standards-based and interoperable utility network."[2]

By engaging in a variety of ways in recent years, the Commission identified strategic objectives and considered the capabilities of clean energy technologies in facilitating a modern grid while meeting policy objectives. The Commission continues to examine ways to create a comprehensive and coordinated energy policies and regulatory processes in Minnesota, guided by sound principles and planning objectives. Those objectives include efforts to

- Maintain and enhance the safety, security, reliability, and resilience of the electricity grid, at fair and reasonable costs, consistent with the state's energy policies;
- Enable greater customer engagement, empowerment, and options for energy services;
- Move toward the creation of efficient, cost-effective, accessible grid platforms for new products, new services, and opportunities for adoption of new distributed technologies;
- Ensure optimized utilization of electricity grid assets and resources to minimize total system costs; and,
- Facilitate comprehensive, coordinated, transparent integrated distribution system planning.[3]

Convenient access to customer and system data is critical to enabling the development of a modern electricity grid. With access to customer and system data, utilities and solutions providers are able to create engaging products and services to help customers manage their use, make appropriate investments in technologies, and take advantage of opportunities in energy markets. Aggregated usage data creates more transparency for the design and offering of products and services to benefit consumers, the grid, and utilities.

Relevant Factors

1. **What relevant factors have changed since the Commission concluded its data privacy investigation approximately two years ago (Privacy Docket; 12-1344)?**

There are many relevant factors related to both public policies and markets that changed since the data privacy investigation in 12-1344. For example, cities in Minnesota are increasingly engaging in sustainability efforts. Many city sustainability efforts require energy usage data, particularly for

[1] Dockets E999/CI-15-556, E002/CI-18-251, E017/CI-18-253, E015/Ci-18-254, E111/CI-18-255
[2] Staff of the MN PUC – Staff Report on Grid Modernization, March 2006
[3] Staff of the MN PUC – January 23, 2018 Planning meeting

addressing building and lighting concerns. For example, 129 Minnesota cities are enrolled in the GreenStep Cities, a voluntary program through the Minnesota Pollution Control Agency[4] to "help cities achieve sustainability and quality of life goals." Energy usage data, particularly aggregated data, is critical to cities' ability to address significant challenges in improving building and district energy usage, and to help guide appropriate investments in energy solutions – including energy efficiency and renewable energy.

Second, the industry and third-party innovators are developing solutions in states where energy data is readily available. In 2014 some parties found the record of the 12-1344 proceeding did not establish the value of releasing energy usage data, the cost of managing this data release, nor the effectiveness of measures intended to protect customer privacy. Many industry groups noted that energy usage data is of high value, and that discussion has evolved since 2014. Innovative companies are providing solutions and maintaining customer privacy in states which allow data exchanges. For example, national trade association Advanced Energy Economy notes that

> "Making aggregated, anonymized customer data and appropriate system-wide data available to third-party companies in a timely manner will enable them to identify and offer more cost-effective alternatives to traditional utility infrastructure investments for the benefit of customers and the grid. Aggregated customer data can help third-party companies develop new and innovative products and services that apply broadly to targeted customer classes or locations. Customer data is also used by utility-contracted agents, such as energy efficiency providers, for program implementation or evaluation, such as verifying reductions in energy use from energy efficiency programs."[5]

Further, the Smart Grid Consumer Collaborative SGCC finds that customers trust their energy service providers and expect to share data in ways that helps them use energy. As noted in a 2018 survey and report, SCGG found

> "When it comes to analyzing account data to help consumers find ways to conserve energy, 74% of respondents strongly or somewhat agreed with the statement "I expect analysis of my account data happens all the time and will help me find ways to conserve energy". There is a clear expectation that electricity providers are using the data they have for the benefit of consumers. This expectation is strongest among Green Champions and Millennials (86% and 81% respectively strongly/somewhat agreed)."[6]

Third, many other states and jurisdictions are progressing on providing valuable energy data while maintaining privacy. While policies vary, state regulatory commissions continue to be involved in data aggregation proceedings. Below are five examples of state regulatory policies and processes, most of which have been active since the Commission's 2017 decision.

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[4] https://greenstep.pca.state.mn.us/ viewed 9/23/19

[5] Advanced Energy Economy (2017). Access to Data – Brining the Electricity Grid into the Information Age. https://info.aee.net/hubfs/PDF/Access-to-data.pdf Accessed 9/23/19

[6] Smart Grid Consumer Collaborative (2018). Data Analytics: Unlocking the Customer Benefits. September 2018. https://smartenergycc.org/data-analytics-unlocking-the-consumer-benefits-report/ Accessed 9/23/19

TABLE: Sample State-level Data Policies and Practices[7]

State	Description	Purposes
California[a]	California Public Utilities Commission allows access to aggregated data to requestors consistent with CPUC policy. More granular information is available to academic researchers, local governments and their consultants. Utilities are required to publish a set of aggregated data consistent with CPUC aggregation thresholds	Non-commercial purposes only. A Commission committee is established to settle any disputes related to data requests.
Colorado[b]		Colorado Public Utilities Commission requires regulated utilities to publish Community Energy Reports for cities over 50,000 residents and counties of over 100,000 residents. Local governments may use GIS data for accuracy; employs 15/15 data standard with local flexibility
District of Columbia[c]	Aggregated benchmarking data	Staff recommendation that PEPCO to report on the implementation of Green Button Connect My Data, including data aggregation sharing practices and data anonymization feasibility
Massachusetts[d]	MassSave program for energy efficiency	Total energy usage available to cities on annual basis, data sets must include certain number of residential premises or more than 15 commercial/industrial accounts.
Pennsylvania[e]	66 Pa. C.S. § 2807(f)(3) requires third party data access options for customers	Distribution companies with smart meter requirements provide access to customer consent for direct meter data access to third parties, including competitive generation suppliers and load management/conservation service providers.

a. California PUC Decision 14-05-016; proceedings of the Energy Data Access Committee
b. Colorado Public Utilities Commission Docket 14R-0394EG "Data Access and Privacy Rules for Electric & Gas Utilities."
c. DC Public Service Commission Staff Proposed Opinion and Order No. 19984 August 2, 2019 – See Appendix F; Formal Case No. 1130 - In the Matter of the Investigation into Modernizing the Energy Delivery System for Increased Sustainability
d. Mass Saves Data http://www.masssavesdata.com
e. American Council for an Energy-Efficient Economy. State and Local Policy Database: Data Access. https://database.aceee.org/state/data-access Accessed 9/23/19

Simply put, both industry and customers agree that data analysis, in particular aggregated data which leads to system and customer insights, is critical and increasingly expected. State-level practices

[7] Resources
Crandall, K. (2019) Rethinking Energy Data Access. Institute for Market Transformation, Urban Sustainability Directors Network. February 2019. https://www.imt.org/wp-content/uploads/2019/01/IMT_RethinkingEnergyDataAccess.pdf Accessed 9/23/19

National Association of Regulatory Utility Commissioners/Navigant Consulting. (2015) Value of Customer Data Access: Market Trends, Challenges, and Opportunities. April 2015. https://pubs.naruc.org/pub.cfm?id=536E2C7B-2354-D714-51CE-F035BA50FAA1

American Council for an Energy-Efficient Economy. State and Local Policy Database: Data Access. https://database.aceee.org/state/data-access Accessed 9/23/19

continue to mature, and industry practices can be extended. Thus, this discussion goes well beyond the scope of 12-1344, is timely, and is valuable given Minnesota's policy objectives.

2. **Should the Commission modify its accepted definitions of CEUD and Personally Identifiable Information (PII) as proposed by CUB? What are the implications of such modifications?**

CEEM encourages the Commission to adopt adjustable definitions for CEUD. We strongly agree that the amount and timing of energy use and production, peak load contributions, outage data, pricing and rates, and other billing and metering data are essential information for facilitating third-party innovation. As grid data evolves, there may be additional value propositions. The Commission may choose to review this definition as more system learning and utility-industry practice sharing will no doubt continue.

CEEM does not find any significant issue with the definition for privacy proposed in CUB's petition. CEEM agrees with CUB's petition that standards should align with national best practices, including those practices informed by DataGuard, an initiative led by the U.S. Department of Energy. In 2014, the Commission identified PII consistent with NIST Security and Privacy Practices. CEEM does not believe that the Commission needs to redefine PII so much as recognize CUB's definition is conceptually consistent with the Commission's definition. Owing to the strong work of the National Institutes of Standards and Technology in developing frameworks for Smart Grid Privacy for customers, we note that personal information items, such as name, address, payment/credit card information, social security number, and other such information should continue to be protected. Utilities nationwide protect this information well.

Evidentiary Basis for Standards

3. **Are there any rigorous statistical studies that show that CUB's proposed aggregation standard is effective and sufficient for protecting customer privacy, in particular for the degree of granularity of the data (length of time, time interval, and spatial density) that CUB seeks access to?**

We at CEEM support the use of industry standards. The granularity and types of information will shift as industry shifts and as utility data systems become more sophisticated. There are a variety of data aggregation practices in use. According to a 2014 study by the Pacific Northwest National Laboratory, privacy risk for tenants in multi-tenant commercial facilities is defined as the likelihood that usage was similar to all tenants within a building, with low risk occurring at 4-5 meters.[8] Additionally, the Energy Information Administration notes a P Percent Rule, which translates to a data release if and only if a company's next largest competitor could not guess usage within accuracy. The most commonly adopted rule is the 15/15 rule, which is noted as conservative compared to P Percent methods. For example, the American Statistical Association Committee on Privacy and Confidentiality notes the 15,15 rule "is overly

[8] Livingston, O. V., Pulsipher, T. C., Anderson, D. M., Vlachokostas, A., & Wang, N. (2018). An analysis of utility meter data aggregation and tenant privacy to support energy use disclosure in commercial buildings. *Energy*, *159*, 302-309. https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-23786.pdf

restrictive" and that "State Public Utility Commissions should stay informed and use modern statistical theory and sound statistical practices in developing privacy rules that apply to public utility companies."[9]

CEEM does not believe the 15/15 rule is the only methodology that should be considered. In applying the 15/15 standard, the California Public Utilities Commission noted it should not be a default standard.

4. **Are there reliable and rigorous standards that can be used to assure that anonymized data cannot be de-anonymized (identified)?**

Use of industry-standard practices, such as DataGuard and standards used through programs such as Green Button are safe ways to ensure customer privacy protections. The North American Energy Standards Board (NAESB) also considered practices in REQ.22 - Third Party Access to Smart Meter-based Information Model Business Practices. These industry-led programs are scalable and rely on sound and replicable industry practices through practice sharing.

5. **If a third party has access to both anonymized and aggregated data are the privacy protections of aggregation and anonymization compromised?**

CEEM feels an overarching framework is helpful. Data risks will vary on data sources and data formats.

Ratepayer Considerations

6. **Should CEUD fees paid to the utility take into account the market value of the data to the ratepayer? Should ratepayers be compensated monetarily at that market value?**

CEEM strongly disagrees with the CEUD fees paid to the utility to take into account market value of the data to the ratepayer. The market value of data will vary by application of the data and the business model of third parties and of customer desires. Further, the competition that enabled within markets by using the same data is good for energy markets. There is potential to drive cost reductions and spur innovation for customer and utility system benefits. This also provides opportunities for private investment to complement regulated utility investment.

The utility has the obligation to maintain the data and ratepayer dollars provide that. Utilities access to customer data to market their own programs does not face such barriers, and the disincentives for the utility to share such data with competitive industries (like solar, storage, energy efficiency) can create barriers to third-party services.

We believe that customer data should enable customers to exercise control over data sharing for their energy usage. By allowing utilities to charge a fee for access erects unfair barriers to energy service providers. The ability of the customer to determine how it uses their data and who they may want to share it with is fundamental to enabling greater customer engagement, empowerment, and options for energy services.

Process and Schedule

7. **Can aggregation standards, anonymization standards, and cost issues be developed absent a contested case proceeding?**

[9] https://community.amstat.org/cpc/humansubjectsprotectionethicalresearchand Accessed 9/23/19

CEEM strongly encourages the Commission to thoughtfully explore the standards presented in CUB's Petition. If so desired by the Commission, industry standards can be studied, and the commission may have the authority for a periodic review. Such a review process does not require a contested case.

If staff and Commissioners desire, there is available funding for technical assistance to Commissions on data issues, including through the U.S. Department of Energy.

8. **Are there more measured and limited approaches to data use that could aid the Commission in addressing future issues?**

CEEM agrees that a well-vetted approach is needed. However, we are concerned that "measured and limited" approaches are not warranted, given that industry practices in many jurisdictions have matured. Minnesota runs the risk of minimizing innovation and limiting customer benefits by taking continued limited approaches. Further, measured and limited approaches will not address the current data needs of Minnesota's cities, businesses, and customers.

CEEM strongly support pilot programs if and where appropriate. However, any and all pilot programs must be designed with specific learning objectives, timelines, and plans for applying lessons learned across the state's utility industry.

9. **Should the Commission take up CUB's Petition?**

CEEM strongly supports taking up CUB's Petition. The debate over energy data aggregation is being had at many PUCs around the country. Minnesota's energy consumers, utilities, and third-party service providers can create practical and workable data practices. We encourage the Commission to think carefully about any objectives in taking up this Petition, and to create proceedings with specific issues in mind. We believe the Commission should take this up as the use of aggregated energy data has potential value to consumers, and markets, and is Consistent with commission objectives and statutory authority.

Other

10. **Are there other issues or concerns related to this matter?**

We have no additional concerns to add at this time.

CONCLUSION

We applaud the Commission for beginning the important discussion. We are encouraged by CUB's Petition to the Commission in this matter. We thank the Commission and staff for their continued hard work to make these regulatory and business discussions more transparent. Minnesota's electricity grids deliver essential services to the businesses and citizens of the state. The usage data can be unleashed, and we believe Minnesota will continue to change to adapt to trends related to technology changes, public policy objectives, and market activity.