

Staff Briefing Papers

Meeting Date June 6, 2024

Agenda Item 3**

Company All Rate-Regulated Utilities

Docket No. E,G-999/19-505
E,G-999/CI-12-1344

In the Matter of a Petition by the Citizens Utility Board of Minnesota to Adopt Open Data Access Standards

In the Matter of a Commission Inquiry into Privacy Policies of Rate-Regulated Energy Utilities

Issues What actions should the Commission take regarding further refinement of the Open Data Access Standards' policies on the release of anonymized customer energy use data?

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✓ Relevant Documents

Date

Minnesota Power Initial Comments	02/16/2024
Xcel Energy Initial Comments	02/16/2024
Otter Tail Power Co. Initial Comments	02/23/2024
Minnesota Energy Resources Corp. Initial Comments	02/23/2024
Citizens Utility Board of Minnesota Initial Comments	03/04/2024
Department of Commerce Initial Comments	03/04/2024
Citizens Utility Board of Minnesota Reply Comments	04/29/2024
Otter Tail Power Co. Reply Comments	04/29/2024
CenterPoint Energy Minnesota Gas Reply Comments	04/29/2024
Minnesota Power Reply Comments	04/29/2024

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The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

✓ **Relevant Documents**

Elise Harrington et al. Reply Comments

Date

04/29/2024

Xcel Energy Reply Comments

04/29/2024

PUC Information Requests 1 and 2 to Minnesota Power

5/10/2024

PUC Information Request 3 to Xcel Energy

5/10/2024

STATEMENT OF ISSUES

What actions should the Commission take regarding further refinement of the Open Data Access Standards' ("ODAS" or "the Standards") policies on the release of anonymized customer energy use data ("CEUD")?

INTRODUCTION

On November 20, 2020 the Commission accepted CUB's petition for the use of uniform Open Data Access Standards for gas and electric rate-regulated utilities with its Order in Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344 ("Order adopting ODAS"). These statewide Standards address third-party access to aggregated or anonymized CEUD provided by gas and electric utilities with more than 50,000 customers for a specific set of applications. Third-party access to CEUD can allow individuals other than the customers themselves to identify opportunities to pursue energy efficiency, conservation, and economic competitiveness, and to measure the effectiveness of those efforts. For these reasons, third-party access to CEUD is particularly beneficial to local governments seeking to track their progress towards their climate commitments. However, disclosing CEUD has the potential to reveal confidential information about the customer and the distribution system.

Through its Order adopting ODAS, the Commission concluded that the public interest would be served through the adoption of the Standards, and that "incrementally applying the Standards would help maintain the appropriate balance between customer privacy and access to CEUD."¹ Presently, the Standards only apply to requests for aggregated CEUD.² At issue is whether the Commission should continue to incrementally apply the standards to use cases for anonymized CEUD. A current version of the Standards has been included in these briefing papers as Attachment 1.

These briefing papers begin by defining several key terms necessary to the discussion at hand. Staff then provides a summary of this docket's history before describing parties' comments and recommendations. Staff has included its analysis at the end of the briefing paper. The Commission has nineteen Decision Options to consider at the June 6, 2024, agenda meeting.

KEY TERMS

Aggregated Customer Energy Use Data

As defined in the Standards, aggregated CEUD refers to "the data of individual customers located in a defined geographical area, which is combined into one collective datapoint per time interval."³ Aggregated data sets may include CEUD from no fewer than 4 customers, and a single customer's energy use must not represent more than 50 percent of the total energy

¹ November 20, 2020 Order in Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344, p.6.

² March 13, 2023 Order in Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344, Order Paragraph 2.

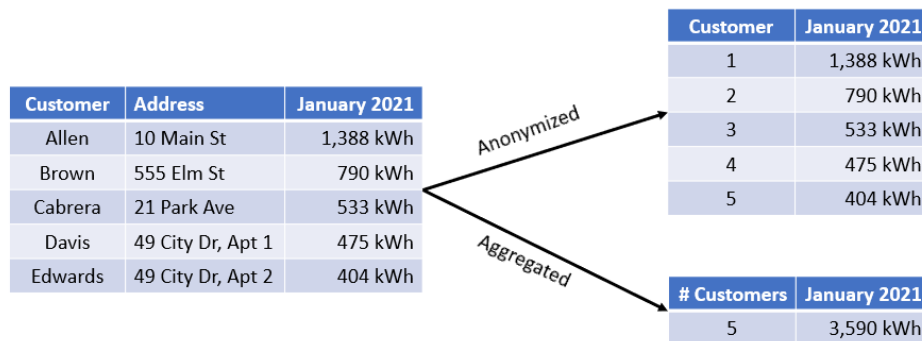
³ Standards section II.A.

consumption for the data set.⁴ This rule is known as the Standard’s “aggregation screen” or simply as “the aggregation standard.”

Anonymized Customer Energy Use Data

As defined in the Standards, anonymized CEUD refers to “data of individual customers, which has been modified sufficiently to prevent the release of personally identifiable information, collected over a number of time intervals from a defined geographical area.”⁵ Currently, anonymized data may include CEUD from no fewer than 15 customers, and a single customer’s energy use must not represent more than 15 percent of the total energy consumption for the data set.⁶ This rule is known as the Standard’s “anonymization screen” or simply as “the anonymization standard.”

Figure 1: Anonymized vs Aggregated CEUD⁷



Customer Energy Use Data (“CEUD”)

Defined by the Commission in its January 19, 2017, Order in Docket 12-1344, CEUD refers to “data collected from the utility customer meters that reflects the quantity, quality, or timing of customers’ natural gas or electric usage or electricity production.”⁸ This definition of CEUD includes the following information:⁹

- The amount and timing of energy use and production.
- Peak load contributions and the amount and timing of demand.
- Rate class.

⁴ Standards section III.B.(1)(i).

⁵ Standards section II.B.

⁶ Standards Section III.B.(2)(i).

⁷ October 25, 2021, Issue Brief, *Access to Aggregated or Anonymized Customer Energy Use Data*, Docket Nos. E,G999/CI-12-1344 and E,G999/M-19-505, p.4.

⁸ January 19, 2017, Order, Docket 12-1344, p.6.

⁹ October 25, 2021, Issue Brief, *Access to Aggregated or Anonymized Customer Energy Use Data*, Docket Nos. E,G999/CI-12-1344 and E,G999/M-19-505, p.6.

Additionally, this definition **omits** sensitive customer information collected by utilities including:¹⁰

- Customer identity verification information;
- Billing payment information; and
- Electronic banking information for autopay customers.

Also **omitted** by the Commission's definition are several other types of customer data that a utility may collect:¹¹

- Whether the customer has taken part in energy efficiency programs offered by the utility.
- Whether the customer currently participates in demand response programs.
- If the customer has an approved interconnection agreement with the utility for distributed generation, energy storage, or electric vehicle charging equipment;
- If the customer owns smart devices capable of submetering usage; and
- If the customer has installed beneficial electrification technologies.¹²

Personally Identifiable Information ("PII")

PII is defined by Commission Order as "customer data which can be used to distinguish or trace the identify of an individual (e.g., name, social security number, biometric records, etc.) alone or when combined with other personal or identifying information which is linked or linkable to a specific individual (e.g., date and place of birth, mother's maiden name, etc.)."¹³ This definition of PII is also represented in the Standards in section II.F.

Screening Thresholds ("Screens")

Screens, unlike other commonly used terms related to the Standards, are not defined by the Commission or within the Standards themselves. In the context of CEUD, screens are used to protect customer privacy by preventing the release of data to a third party that would allow that third party to reasonably guess the energy use of a specific customer. In its October 25, 2021, issue brief¹⁴ RAP provides the following example to highlight the need for screens:

[I]magine a census block that includes one large industrial customer in a primarily residential neighborhood. In an anonymized data set, it will be blatantly obvious

¹⁰ Id.

¹¹ Id.

¹² RAP states that for electrification to be considered beneficial, it must meet one or more of the following conditions without adversely affecting the other two: (1) Saves consumers money over the long run; (2) Enables better grid management; and (3) Reduces negative environmental impacts. <https://www.raponline.org/be/>

¹³ September 9, 2014, Order, Docket 12-1344, Order Point 2.

¹⁴ *Access to Aggregated or Anonymized Customer Energy Use Data*, Issue Brief, October 25, 2021 Docket Nos. E,G999/CI-12-1344 and E,G999/M-19-505.

which customer is the industrial customer because its energy usage will dwarf everyone else's. In an aggregated data set, it might be possible to estimate the industrial customer's energy usage simply because it forms a huge portion of the aggregated total. One could, for example, make an estimate of the average consumption of a residential customer, multiply that by the number of residences in the census block, and subtract that amount from the total energy usage to get a good estimate of the industrial customer's usage.¹⁵

The screens used by the Standards start with the minimum number of customers to be included in each data set, followed by a limit on what any one customer may contribute to the total energy use of the data set (as a percentage). For example, the Commission's screen for aggregated CEUD is a 4/50¹⁶ screen, in that an aggregated CEUD data set must include a minimum of 4 customers with no customer representing more than 50 percent of the total energy consumption in the data set. Similarly, the Commission's screen for anonymized CEUD is a 15/15 screen, which requires the data set to contain energy use data from a minimum of 15 customers with no one customer representing more than 15 percent of the total energy consumption in the data set.

Third Party

As defined in the Standards, a third party refers to "a person or entity who requests CEUD other than their own from the utility that maintains the data."¹⁷ Table 1 below outlines which organizations are permitted by the Standards to request aggregated and anonymized CEUD.

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¹⁵ id., p.18.

¹⁶ "x/y" is a shorthand conversion used to describe screens where x is the minimum number of customers and y is the limit on any one customer's contribution to the total energy use in the data set.

¹⁷ Standards Section II.I.

Table 1: Organizations Permitted to Request Aggregated and Anonymized CEUD

Aggregated CEUD¹⁸	Anonymized CEUD¹⁹
<ul style="list-style-type: none"> • Tax-exempt organizations²⁰ based within the U.S. • U.S. Federal Government Agencies and subdivisions • State of Minnesota Government agencies, boards, and/or commissions • Regional²¹ or local government entities with jurisdiction within Minnesota • Government entities of federally recognized tribes that share Minnesota's geography • Property owners and managers²² 	<ul style="list-style-type: none"> • Tax-exempt organizations based within the U.S. • U.S. Federal Government Agencies and subdivisions • State of Minnesota Government agencies, boards, and/or commissions • Regional or local government entities with jurisdiction within Minnesota • Government entities of federally recognized tribes that share Minnesota's geography • Entities that provide or seek to provide demand response, energy efficiency, or other services to a utility²³

BACKGROUND

I. The Privacy Docket (12-1344)

The Privacy Docket was opened on January 8, 2013 to investigate concerns regarding the protection of personal information and the dissemination of customer data²⁴ which were brought into discussion during Xcel Energy's 2012 request for approval of a Customer Data

¹⁸ Standards Section III.B.(1)(iv).

¹⁹ Standards Section III.B.(2)(iv).

²⁰ Tax-exempt organizations are defined in the standards as a business entity organized in the U.S. for a nonprofit purpose and that is exempt from paying federal income tax pursuant to the International Revenue Code.

²¹ Regional units of government are defined as regional planning boards, regional development commissions, and the Metropolitan Council as defined by Minnesota Statutes Chapters 462 and 473.

²² So long as the CEUD requested applies only to the property the requestor owns or manages.

²³ For the sole purpose of providing such services or preparing a proposal to the utility to do so.

²⁴ The Commission's investigation included requesting comments on utilities compliance with the Federal Trade Commission's (FTC's) Red Flags Rule; requesting comments on the collection, sharing, and protection of customer's personally identifiable data; and the convening of a working group with the goal of exploring the appropriate use of CEUD.

Privacy Tariff.²⁵ The Commission's investigation into the appropriate use and limitations on the use of CEUD took the form of a workgroup which convened a total of thirteen workshops between September 20, 2013 and December 4, 2015 with participation from over 20 stakeholder groups. The results and recommendations from these workshops were summarized by an Administrative Law Judge in two reports.²⁶

On January 19, 2017, the Commission issued an Order²⁷ taking the following actions:

- Defining CEUD;
- Declaring that an energy utility should refrain from disclosing CEUD without the customer's consent unless the utility has adequately protected the customer's anonymity;
- Directing each utility to file policies on aggregating and releasing CEUD, and to track and report the costs it incurs responding to requests for this data; and
- Soliciting comments on a model form by which customers may give informed consent to the release of their data.

At this time the Commission did not specify one technique or procedure that a utility must follow to "adequately protect a customer's anonymity" and instead instructed each utility to file their own practices with the Commission.²⁸

II. CUB's Petition to Adopt Open Data Access Standards

On August 6, 2019, the Citizens Utility Board of Minnesota (CUB) filed a petition to initiate a proceeding to adopt statewide ODAS for the sharing of aggregated or anonymized CEUD to qualified third parties, replacing the current system in which each utility sets its own standards for the release of CEUD. CUB's proposal addressed the collection and sharing of CEUD in two formats:

1. a 4/50 aggregation standard, and
2. a 15/15 anonymization standard.

Proponents of CUB's proposed Standards argued, in brief, that access to CEUD is necessary for the advancement of several initiatives including energy conservation and time-of-use rates. They stated that a uniform approach was preferable to the current utility-specific approach and

²⁵ Docket No. E,G-002/M-12-188.

²⁶ *Use and Limitations on Use of Customer Energy Usage Data*, September 17, 2014 and *Customer Energy Use Data: Recommendations for Action in Minnesota*, August 24, 2016.

²⁷ Docket No. E,G-999/CI-12-1344 *Order Governing Disclosure of Customer Energy Use Data To Third Parties, Requiring Filing of Privacy Policies and Cost Data, and Soliciting Comment*.

²⁸ January 19, 2017 Order in Docket No. E,G-999/CI-12-1344, p.8.

that the proposed Standards would be able to adequately protect customer privacy.²⁹ The Standards were argued to also allow local governments to conduct and evaluate their energy programs.³⁰

Opponents of the Standards used historic Commission proceedings on customer privacy and data access as an argument against the adoption of Standards, arguing that the current data access regime works well and should not be changed. Opponents also cited the costs required to comply with such a standard and concerns for the privacy of large-industrial customers as reasons to not adopt the Standards.

III. The Commission Adopts Open Data Access Standards

In a November 20, 2020 Order³¹ the Commission adopted ODAS for electric and natural gas utilities with more than 50,000 customers, setting statewide rules for third-party access to aggregated or anonymized CEUD concluding that the adoption of the Standards would serve the public interest.³² At this time, the Commission applied the Standards to requests for whole-building aggregated CEUD for building owners and benchmarking purposes.³³ The Commission also exempted large commercial and industrial (C&I) customers with peak demands greater than 5 MW from the Standards citing “*the unique privacy concerns of large-industrial facilities.*”³⁴ In the Order, the Commission concluded:

*...incrementally applying these standards will help maintain the appropriate balance between customer privacy and access to CEUD; this access will help advance the state’s energy goals, including potential energy savings and reductions in greenhouse gas emissions. By allowing only the entities listed above to access whole-building aggregated CEUD for benchmarking purposes at this time, stakeholders will be able to test out the effectiveness of these Standards at little risk to customer privacy. It is important to continue improving these Standards as utilities explore innovations that implicate CEUD, such as grid modernization, advanced-metering infrastructure, and time-differentiated rates.*³⁵

²⁹ The parties cited a study by Pacific Northwest National Laboratory finding CUB’s proposed 4/50 aggregation standard adequately protected customer privacy.

³⁰ Minneapolis stated that the current data access rules have impeded the city’s ability to conduct and evaluate its energy programs, specifically mentioning its ordinance requiring landlord to provide prospective tenants with energy use data.

³¹ Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344.

³² November 20, 2020 Order in Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344, p.6.

³³ Id., “Utilities will be required to provide building-level and public-purpose data aggregation without charge to building owners/managers, local units of government, and non-profit organizations that use that data for public interest energy research.”

³⁴ Id.

³⁵ Id.

The Commission had contemplated also applying the Standards to aggregated CEUD for communities and other local units of government at this time. However, at the July 16, 2020, agenda meeting, the Commission decided against applying the Standards to this use case noting that such requests for data would be affected by the proposed 5 MW peak demand exemption for large C&I customers. The Commission instead chose to continue developing the record on these topics and stated its intention to request additional comments on, among other things, CEUD for communities and other local units of government and the need for additional protections for large C&I customers.

IV. The Commission Refines the Open Data Access Standards

Through its March 13, 2023, Order the Commission further refined the Standards by, among many other things:

- Expanding the application of the Standards to all requests for aggregated CEUD;
- Adding census boundaries to the Standard's list of geographic boundaries for which a third party may request CEUD;
- Adding regional units of government to the Standard's list of third parties able to request CEUD;
- Setting monthly time intervals as the shortest allowable interval of time for which a third party could request aggregated CEUD;
- Setting hourly time intervals as the shortest allowable interval of time for which a third party could request anonymized CEUD;
- Requiring utilities to provide aggregated CEUD at the building, municipal, tribal nation, and county levels at no charge; and
- Retaining the 5 MW peak demand exemption for C&I customers only for aggregated building level and anonymized CEUD requests.

While explaining its decision to retain the 5 MW peak demand exemption for C&I customers for only aggregated building level and anonymized CEUD requests, the Commission noted that no other state found it necessary to include a blanket exemption for large customers, indicating that such an exemption in Minnesota is not the best way to accomplish the goals of the Standards. Additionally, the Commission stated the following:

In 2020, when the Commission first implemented the Standards, it considered whether to include the 5 MW exemption and to which use cases the Standards should apply. At that time, it authorized limited application of the Standards to whole-building aggregated CEUD for building owners and benchmarking, so exempting all large customers from the Standards had little-to-no impact on the data that third parties could request under the Standards or the public purposes supported by use of the data. As the Commission now considers approving a use

case for community-level aggregated CEUD,³⁶ continuing to exclude all large customer data could significantly reduce the ability of third parties to use the requested data to further important public interests.³⁷

At this time, the Commission took little action on anonymized CEUD. Instead, to continue incrementally applying the Standards, the Commission chose to continue to develop the record on third-party access to anonymized CEUD.

V. Statutory Protections for C&I Customers

On May 24, 2023, Governor Walz signed new legislation affecting the sharing of CEUD.³⁸ Within this bill was Minn. Stat. § 216C.331 which included the following language at Subdivision 8, paragraph (d):

Notwithstanding any other provision of law, a qualifying utility shall not aggregate or anonymize customer energy use data of any customer exempted by the commissioner [of commerce] under section 216B.241 from contributing to investments and expenditures made by a qualifying utility under an energy and conservation optimization plan, unless the customer provides written consent to the qualifying utility.

With its August 1, 2023, Order, the Commission amended the Standards by adding language at Standards section III.E exempting customers that have been exempted by the commissioner of commerce under section 216B.241, which governs utility Energy Conservation and Optimization (“ECO”) programs, from inclusion in data requests under the Standards.

VI. (Current Proceeding) Anonymized CEUD under the Open Data Access Standards

On December 1, 2023, Commission Staff filed a notice of comment period with the following topics open for comment:

- What specific use-cases for anonymized CEUD could be used by the Commission to continue to incrementally apply the Standards while maintaining the balance between customer privacy and CEUD access?
- What modifications, if any, should be made to the anonymized data access contract requirements set by ODAS section III.B.(2)(v)?
- What modifications, if any, should be made to the shortest allowable time interval for anonymized data set by ODAS section IV.A.?
 - Are utilities currently able to produce anonymized data sets using hour-long time

³⁶ Staff notes that “community-level CEUD” is in reference to CEUD requests at scales other than the whole-building level. This includes request for CEUD at the census block, city, county, and zip-code levels.

³⁷ March 13, 2023, Order in Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344, p.13.

³⁸ Laws of Minnesota 2023, chapter 60, article 12, section 34.

intervals?

- What considerations should the Commission make regarding the application of the 15/15 anonymization screen to the shortest allowable time interval (currently one-hour intervals)? Does each interval of time need to pass the 15/15 anonymization screen?
- Given the new customer exemptions added to the Standards at section III.E. by the Commission's August 1, 2023, Order, is it necessary for the Commission to continue to maintain its previous policy of exempting large commercial and industrial customers with peak demands of 5 MW or more from aggregated building level and anonymized CEUD datasets?
 - If so, what is the appropriate threshold for limiting the application of the Standards to commercial and industrial natural gas and electric customers for anonymized CEUD requests?

By March 4, 2024, the following parties filed initial comments:

- Minnesota Power ("MP")
- Northern States Power Co. d/b/a Xcel Energy ("Xcel")
- Otter Tail Power Co. ("OTP")
- Minnesota Energy Resources Corp. ("MERC")
- Citizens Utility Board of Minnesota ("CUB")
- The Minnesota Department of Commerce ("the Department")

By April 29, 2024, the following parties filed reply comments:

- CUB
- OTP
- CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas ("CenterPoint")
- MP
- Harrington et al.
- Xcel

The Commission must now decide whether the Standards should be applied, in whole or in part, to requests for anonymized CEUD. Staff reminds the Commission that it has already adopted the Standards as a framework for the release of CEUD to select third parties. However, the Commission has not yet applied the Standards to any use case for anonymized data. This means that, despite its inclusion in the Standards, language that outlines the release of anonymized CEUD to third parties has gone unused. This does not mean that anonymized data is unavailable to third parties, but that the release of anonymized data to third parties is not governed by the language in the Standards.

DISCUSSION

I. Applying the Standards to Use Cases for Anonymized CEUD

A. Those in Favor of Expanding the Application of the Standards

Both the Department and CUB supported applying the Standards to use cases for anonymized CEUD. However, their recommendations differed. CUB recommended that the Commission implement the Standards in their entirety [**Decision Option 1**] while the Department instead recommended applying the Standards only to anonymized CEUD requests for study and program design [**Decision Option 2**]. Both parties provided examples of how anonymized CEUD has been used to advance the public good across the country – summarized in the paragraphs that follow – but CUB noted that they are not aware of examples of analysis done by entities seeking to provide demand response, energy efficiency, or other services to a utility despite the current version of the Standards allowing for such entities to access anonymized CEUD.³⁹

In their initial comments, CUB highlighted the many ways anonymized CEUD has already been used by third parties to conduct research on inequities in utility rates, disparities in energy usage across residents of different racial backgrounds and income class,⁴⁰ and how demand response can be tailored to match customers' average load profiles to maximize energy savings and thus reduce greenhouse gas emissions. CUB stated that anonymized CEUD could help advance Minnesota's goals regarding energy efficiency and conservation,⁴¹ greenhouse gas reductions,⁴² just and reasonable rates,⁴³ affordable and competitive rates,⁴⁴ and energy justice and equity in utility regulation.⁴⁵

CUB specifically highlighted one study conducted by CUB Illinois⁴⁶ that analyzed the anonymized CEUD of more than 2.5 million households in the Chicago area and found that

³⁹ See Standards Section III.B.(2).(iv)(c), or Staff's list of third parties on page 4 of these briefing papers.

⁴⁰ CUB highlighted the September 6, 2022, reply comments made by Chan et al. which described a study that analyzed hourly anonymized residential CEUD in Arizona for equity impacts. The study found that low income and racial minority households limit the use of their appliances relative to wealthier households.

⁴¹ In reference to Minn. Stat. §§ 216B.2401; 216B.241; 216C.05; 216B.2427, subds. 2(a)(1) and (10).

⁴² In reference to Minn. Stat. §§ 216H.02, subd. 1; 216B.1691, subd. 2g.

⁴³ In reference to Minn. Stat. § 216B.03.

⁴⁴ In reference to Minn. Stat. § 216C.05.

⁴⁵ In reference to the Commission's July 17, 2023 Order in Docket No. E-002/GR-21-630, *In the Matter of the Application of Northern States Power Company, dba Xcel Energy, for Authority to Increase Rates for Electric Service in the State of Minnesota*, which stated "the Commission finds that the Energy Justice tenets ... are relevant to setting rates in this proceeding."

⁴⁶ Jeff Zethmayr, Ramandeep Singh Makhija, *Six unique load shapes: A segmentation analysis of Illinois residential electricity consumers*, The Electricity Journal, Volume 32, Issue 9, 2019.

Chicago customers fell into one of six distanced load curves. After pairing this data with information from the U.S. Census, the researchers found that low-income households typically had flatter load curves and used much less energy than wealthier households during the most expensive “on-peak” times of the day. The researchers concluded that on a flat electricity rate the low-income customers of Chicago actually paid more than the real cost of providing their electricity. In other words, on a flat electricity rate Chicago’s low-income customers subsidize their higher-income neighbors.

This same study was conducted in 2020 through a partnership between CUB Minnesota, CUB Illinois, and MP. The study was intended to inform considerations of the utility’s proposed time-of-day rate. CUB noted that MP voluntarily provided anonymized CEUD to CUB Illinois’ data analysts. However, the results of this study showed that the transition to a time-of-day rate would benefit, or at least not harm, low-income customers.⁴⁷

The Department was also aware of multiple scenarios in which anonymized CEUD was used to further the public interest. Specifically, the Department stated that anonymized CEUD is useful to researchers that want to understand customer usage patterns and for designing energy efficiency programs. According to the Department, when designing energy efficiency programs, anonymized CEUD is more beneficial than aggregated CEUD as it allows for individual households in a neighborhood to be compared to the households of another neighborhood. The ability to compare individual households to one another provides more meaningful information than an aggregated dataset of those same households.

The Department recalled several studies described by Chan et al. on September 6, 2022, which took advantage of anonymized CEUD. The Department summarized the results of these studies, noting that the outcomes included identifying areas of high and low consumption to better target programs, policies, and grid planning; consumption pattern differences due to income, race, and ethnicity; the differences in studying marginal versus average emissions; and consumption changes during COVID.

Assistant Professor Elise Harrington, Associate Professor Gabe Chan, Postdoctoral Associate Bahvin Pradhan, and Research Assistant Chloe Olson, (collectively “Harrington et al.”) of the University of Minnesota’s Center for Science, Technology, and Environmental Policy⁴⁸ summarized nine new academic research studies that leveraged anonymized CEUD in addition to the nine studies already described by Chan et al. on September 6, 2022. Harrington et al. did not make recommendations regarding how the Commission should apply the Standards to additional use cases. However, through their review of academic research studies Harrington et al. provided four research-based use cases for high-resolution anonymized CEUD.

⁴⁷ Docket No. E015/M-12-233, *In the Matter of Minnesota Power’s Compliance Report for its Temporary Rider for Residential Time-of-Day Rate for Participants of the Smart Grid Advanced Metering Infrastructure Pilot Project*, Petition for Approval of Changes to Minnesota Power’s Residential Rate Design, 12/01/2020, Appx. E.

⁴⁸ Harrington et al.’s comments are their own and do not represent the opinion of the University of Minnesota or the Center for Science, Technology, and Environmental Policy.

<u>Research Use Case</u>	<u>Summary of Explanation</u> ⁴⁹
Rate Design	High-resolution anonymized CEUD can help identify geographic and demographic patterns that provide insights into rate design questions, such as patterns of cross-subsidization and load-shifting opportunities achieved through time-varying rates.
Consumption Behaviors	High-resolution anonymized CEUD enables further study of behavioral questions related to energy use and interventions such as energy efficiency investments that can contribute to debates over consumer behaviors, energy burden, and the impact of external shocks such as extreme weather, climate change, and the COVID-19 pandemic.
DER Integration	Residential anonymized CEUD has been used in conjunction with circuit-level data on existing, queued, and total distributed generation and sociodemographic data to identify inequities in DER adoption and disparities in hosting capacity. Consumption patterns have also been used to identify patterns of rooftop solar penetration, and to estimate the level of rooftop solar penetration that may be associated with reliability concerns.
Program Evaluation	Anonymized CEUD from smart meters support evidence-based policy making based on a clearer understanding of market priorities and a better estimate of the value of energy efficiency programs.

B. Those Opposed to Expanding the Application of the Standards

CenterPoint, MERC, MP, OTP, and Xcel opposed the addition of an anonymized CEUD use case at this time **[No action on Decision Options 1 or 2]**. Those opposed cited the fact that the release of anonymized CEUD presents a higher risk of re-identification than the release of aggregated CEUD, and noted broadly that they have been unable to identify use-cases for anonymized CEUD that maintain a balance between customer privacy and data access. CenterPoint explained that the use cases and studies provided in support of the expansion of the Standards were all specific to electric utilities. Thus, CenterPoint specifically recommended that no additional use cases for anonymized CEUD be added for gas utilities.

⁴⁹ Full explanations, including summaries of relevant academic research studies for each use case, are included in the 4/29/2024 reply comments by Harrington et al.

Instead, these parties supported additional record development on the release of anonymized CEUD. Xcel stated that a technical risk assessment of anonymized CEUD standards must be conducted by an expert in the field, and an objective basis should be established for the risk of re-identification of customer data for a given scope and time interval.⁵⁰ Similarly, MP stated that decisions to incrementally apply the Standards would benefit from the input of experts in data privacy and grid security. Alternatively, OTP recommended removing all references to anonymized data in the Standards **[Decision Option 3]**.

Both Xcel and MP stated that they have searched for, but have been unable to find, independent research-based analysis to support anonymization standards that provide an objective basis for assessing the risk of re-identification of customer data for a given scope or time interval. Similarly, OTP noted that there does not appear to be an accepted industry standard for use cases, screens, or interval data for anonymized CEUD. MP reiterated the challenges associated with protecting customer data and preventing (or punishing) unauthorized uses of CEUD, as mentioned by the Regulatory Assistance Project (“RAP”) in their issue brief filed in this docket on October 25, 2021.

Xcel cited the section 2(C) of the Standards, which permits utilities to refuse to provide aggregated or anonymized CEUD when the utility reasonably believes that the data release would create a security risk, allow the third party to re-identify customers, or otherwise use the data in violation of the Standards. Xcel explained that “[the Company] does not provide anonymized data because we believe there is a risk customers may be re-identified.”⁵¹

II. Modifications to Anonymized Data Access Contract Requirements

Staff notes that the Department, CenterPoint, and MERC did not recommend any changes to Standards Section III.B.(2)(v) or provide reply comments in response to the discussions described below.

A. Standards at Present

As specified in Section III.B.(2)(v) of the Standards, utilities have the right to refuse to provide anonymized CEUD to a third party if that party does not sign a contract with the utility that, at a minimum:

- Prohibits the third party from attempting to reverse engineer data or re-identify customers included in a data set;
- Requires the third party to disclose all of the third party’s employees, subcontractors, or agents with access to the data set at the time of the contract and requires this to be updated if it changes during the life of the contract;
- Prohibits the third party from disclosing anonymized data except to the third party’s

⁵⁰ Xcel Reply Comments, p.3.

⁵¹ Xcel Reply Comments, p.2.

personnel or to entities with whom the third party has a contractual relationship for the purpose of conducting the investigation with the anonymized data;

- Requires the third party to have contractual terms for disclosure with contracted entities noted in paragraphs (b) and (c) above that are equivalent to utilities contracts here in and provides executed copies of those agreements in advance or when they're made;
- Holds the third party responsible for its actions with the data;
- Requires the third party to promptly delete data and notify the utility if it discovers any PII contained in the data set; and
- Requires the third party to state its intended use for the data.

B. CUB Recommended Modification

CUB continued to recommend that anonymized CEUD be provided to qualified third parties only under an NDA, and that utilities be allowed to develop their own NDAs subject to the minimum requirements outlined by the Standards. However, CUB recommended that Section III.B.(2)(v)(d) of the Standards be replaced with the following language:

[Decision Option 4]

Section III.B.(2)(v)(d): ~~Require the third a party to have contractual terms for disclosure with contracted entities noted in paragraphs (b) and (c) above that are equivalent to utilities contract here in and provide executed copies of those agreements in advance or when they're made;~~ Prohibit the third party from disclosing the CEUD to any individuals unless an individual has first executed a reasonable nondisclosure agreement with the utility consistent with this section;

CUB explained that, in Commission proceedings, utilities require parties' outside consultants to sign the same non-disclosure agreements required of the parties themselves. Thus, any third-party consultant has a direct contract with the utility regarding the handling of trade secret information. CUB noted that this would be a preferable approach in the context of CEUD requests as well.

Currently, third parties must have contractual terms for disclosure with employees, subcontractors, or agents with access to CEUD. CUB explained that requiring these subcontracted parties with access to the CEUD to sign an NDA directly with the utility, instead of the third party requesting the data, would give the utility more direct control over the contractual requirements placed on consultants of third parties requesting CEUD. For illustrative purposes, CUB included an example "anonymous data agreement" used by ComEd when providing CEUD to third parties.⁵²

Harrington et al. supported CUB's recommendation. Staff notes that no other party commented on CUB's recommendation.

⁵² CUB Initial Comments, Attachment A

C. Limiting the Length of Time CEUD May be Stored by a Third-Party

Xcel recommended that, should the Commission retain its current data anonymization practices, the Commission should limit the duration that a third party may retain anonymized CEUD. The Company explained that requiring a third party to delete data when it is no longer required would help address the concern that anonymized data can never be strengthened once released. OTP supported limiting the amount of time a third-party requester would be allowed to retain anonymized CEUD.

[Decision Option 5]

Section III.F.: A third party that has received aggregated or anonymized CEUD shall delete the data once it is no longer required or 12 months after received (whichever is sooner).

While deleting anonymized CEUD once it is no longer needed was seen as a reasonable request, both CUB and Harrington et al. stated that deleting the data after one year would be unrealistic for most, if not all applications of anonymized CEUD. The parties explained that upon receiving anonymized CEUD it can take up to two years just to clean the data⁵³ to the point where it can be used in analysis. Additionally, using the data for analysis, writing, peer review, and publication of research may take multiple additional years.⁵⁴ The parties noted that after publication it is best practice to continue to hold onto the data for some time in case additional questions arise.

If research is supported by federal grants, the federal agencies will typically require supporting documents and other records relevant to the awards to be held for a minimum of three years after the project ends.⁵⁵ Further, Harrington et al. explained that University researchers must comply with Institutional Review Board requirements, which, like federal grants, also require researches to retain records for at least three years after the completion of research so that findings may be validated.

After their initial analysis, researchers may identify follow-up questions or may wish to use the data set for multiple research questions. In these cases, the parties argued that the time required to re-request and re-clean the data would be costly and prohibitive.

⁵³ Staff notes that “cleaning data” is a term that is generally used to describe the process of removing incorrect, corrupt, incorrectly formatted, duplicate, or incomplete data within a data set prior to using that data set for analysis.

⁵⁴ Harrington et al. explained on page 3 of their reply comments that “...publishing research findings in peer-reviewed academic journals often takes 1-2 years with several iterations and additional analysis; the publishing process would require continued use of CEUD.”

⁵⁵ Harrington et al. and CUB cited Retention requirements for records. 2 CFR 200.334 as one example of this requirement: <https://www.ecfr.gov/current/title-2/section-200.334>.

CUB and Harrington et al. both recommended that the Commission set a default minimum time of five years before the deletion of anonymized CEUD is required. The parties explained that five years should be sufficient for most analyses, but in situations where researchers anticipate needing more than five years with the data, they should be allowed to pursue a modified CEUD deletion date with the utility. Additionally, both parties recommended that anonymized CEUD access contracts allow for compliance with federal retention requirements, or other similar extenuating circumstances, and permit third parties to use anonymized CEUD for multiple analyses.

[Decision Option 6] Staff interpretation of Harrington et al. and CUB

III.B.(2)(vi) Through a contract described in paragraph (v) utilities may require the deletion of anonymized CEUD in a manner that:

- (a) Allows a third party to retain data for a minimum of five years;
- (b) Allows a third party to comply with any applicable data retention requirements, such as federal grant requirements, Institutional Review Board requirements, or other similar circumstances.
- (c) Allows for a sufficient amount of time for the academic publication process, including analysis, peer review, and final publication; and
- (d) Allows a third party to extend this timeline in order to use anonymized CEUD in a subsequent analysis, so long as such analysis is in compliance with the Standards; or
- (e) Provides an alternative timeframe for data deletion, by mutual agreement of the utility and the third party.

Both CUB and Harrington et al. noted that utilities may wish to include a requirement for a data management plan within their contracts. Such plans specify a method of secure data storage and require third parties to delete the data once it is out of use for a certain amount of time. However, neither party recommended that the Commission adopt a requirement for utilities to add such data management plans to their contracts at this time.

D. Utility Concerns Regarding Anonymized CEUD Contracts

Both OTP and MP voiced concerns about the practicality, effectiveness, and costs of administering contracts for the purpose of sharing anonymized CEUD with third parties. They noted that utilities enter non-disclosure agreements with third parties in various docketed matters but explained that these matters are subject to the Commission's authority which provides a measure of assurance for the adherence to the terms of the non-disclosure agreement. However, anonymized CEUD access contracts with third parties put the utilities in a position to expend time and energy monitoring and enforcing disclosure agreements with third parties who are not party to any proceeding before the Commission. Should the third party violate the terms of the contract, the utilities would be required to file a lawsuit and possibly pursue litigation against the third party. MP explained that, once anonymized data has been released, it is nearly impossible to recapture it. Further, if a third party transforms the data, it

may attempt to argue that the product is no longer covered under the terms of the original contract.

In their reply comments, Xcel stated that it shared OTP and MP's concerns regarding the anonymized CEUD contracts. Xcel's stated position is that once the data leaves the Company's possession, it is not possible to enforce how a third party uses the data even with a signed contract.

III. Shortest Allowable Time Interval for Anonymized CEUD

A. Standards at Present

Standards Section IV.A. states, "Utilities will provide CEUD in as short intervals as practicable, with aggregated CEUD reported in intervals no shorter than monthly, and anonymized CEUD reported in intervals no shorter than hourly."

Staff notes that the Commission had previously received recommendations to set monthly intervals as the shortest allowable time interval for anonymized CEUD requests. However, having heard from parties and been provided examples of research using anonymized CEUD, the Commission found limiting anonymized CEUD access to monthly intervals could significantly diminish the usefulness of the data.⁵⁶ Anticipating further record development on this topic, the Commission chose to amend the Standards to specify that anonymized CEUD shall be reported in intervals no shorter than one hour.

B. Discussion

Both CUB and Harrington et al. supported allowing third parties to request anonymized CEUD at sub-hourly intervals. They explained that, although hourly intervals would be sufficient for most research questions, some may require sub-hourly data. Harrington et al. noted that research on appliance use or service interruptions may benefit from intervals of 30 minutes or less.

[Decision Option 7]

Section IV.A.: Utilities will provide CEUD in as short intervals as practicable, with aggregated CEUD reported in intervals no shorter than monthly, ~~and anonymized CEUD reported in intervals no shorter than hourly.~~

CUB explained that allowing parties to request data does not require utilities to grant such requests. The Standards only require utilities to provide requested CEUD if it is "practicable" to do so.⁵⁷ Further, CUB stated that utilities are allowed to charge a requester for the reasonable costs of preparing and supplying the anonymized CEUD. If a utility's AMI and associated

⁵⁶ March 13, 2023 Order in Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344, p.20

⁵⁷ See Standards Section I.A.(2), III.A, and IV.A.

software is capable of providing anonymized CEUD at 30-minute intervals, but doing so would require more time, the requesting party may be charged for the associated expense.

The Department, MERC, MP, OTP, and Xcel supported retaining hourly time intervals as the shortest allowable time interval for anonymized CEUD **[No Action Required]**. The parties generally noted that hourly intervals should be sufficient most analysis.

Both Xcel and MP noted that they are able to produce anonymized CEUD using hour-long intervals. However, MP voiced concern that permitting sub-hourly intervals could increase the amount of staff time needed to provide anonymized CEUD, and Xcel noted that although it is able to produce CEUD data sets at one-hour time intervals the Company does not support doing so because it does not have an objective basis for assessing the risk of customer re-identification for a given scope or time interval.

OTP voiced appreciation for the Standards allowing utilities to provide CEUD in as short intervals as practicable. However, they opposed changes that would allow sub-hourly anonymized CEUD requests. OTP explained that even after the deployment of AMI, it will be unable to provide sub-hourly anonymized CEUD.

MERC stated that it did not see a need to further refine the shortest allowable time interval for anonymized CEUD at this time.

IV. Application of Shortest Allowable Time Interval for Anonymized CEUD

A. Should Each Interval of Time Within a Data set Be Required to Pass the Anonymization Screen?

CUB noted that the standards state:

Anonymized data sets include CEUD from no fewer than 15 customers. A single customer's energy use must not constitute more than 15 percent of the total energy consumption for the data set (Staff added emphasis).⁵⁸

CUB explained that its understanding of the Standards is that to pass the anonymization screen, no customer may use more than 15 percent of the total energy used by the customer class for a specified geographic area for the data set **[Decision Option 8]**. CUB explained that this is consistent with how the 15/15 anonymization screen is applied in Illinois. Harrington et al. supported CUB's interpretation.

CUB stated that requiring each interval of time to pass the anonymization screen would be difficult if not impossible to do. According to CUB, it would be unreasonable to ask a utility to check each interval of time for each class in each geographic area requested. Requiring such

⁵⁸ Standards Section III. B.(2)(i).

analysis would unreasonably increase the time and expense associated with data compilation.

Conversely, MERC, MP, OTP, and Xcel supported clarifying that each time interval must pass the 15/15 anonymization screen to be released. **[Decision Option 9]**

MERC, MP, and OTP explained that the release of anonymized data in hour-long intervals would be administratively burdensome. MP provided an example of the time and resources required to respond to a request for anonymized CEUD, noting that a request for two years of anonymized CEUD for all non-exempt customers at one-hour intervals would require 200+ hours of computer processing time and would result in a 500GB file.⁵⁹ Additionally, utility staff would then need to complete a quality assurance process on the data and validate that the dataset meets the 15/15 screen. MP explained that this process would become longer if, among other things, unique geographic boundaries are requested, or if time intervals don't pass the 15/15 anonymization screen.

The Department expressed that maintaining customer privacy is critical and that the conservative privacy assumption requires each hour of an hourly data set to pass the 15/15 screen. However, doing so is more costly, and thus the tradeoff is one of increased cost or increased privacy. Staff notes that the Department did not take a position or otherwise provide a final recommendation on this topic through their comments.

B. Tracking Utility Expenses

Although the Department did not provide recommendations on the application of the anonymization screen, they did recommend that the Commission require utilities to reflect costs and revenues associated with responding to data requests for anonymized data in rate cases **[Decision Option 10]**. The Department explained that Section VI.A. of the Standards permits a utility to charge a CEUD requestor a fee based on the utility's actual costs to create and deliver the requested data set. The Department stated that the increased costs associated with increased privacy should be borne by the data requestors. Requiring utilities to reflect the costs and revenues associated with responding to anonymized CEUD requests in rate cases will protect ratepayers from the costs of data requests.

MP and Xcel responded to the Department's request, explaining that while utilities may charge organizations for anonymized CEUD, accurately assessing costs could be difficult. The utilities continued, noting that the scale and frequency of anonymized CEUD requests may necessitate investments in internal IT system enhancements or infrastructure improvements. While it would be possible to break out these costs for the purpose of a rate case, both MP and Xcel stated that it is unclear who they should charge for these projects, and how such costs would be applied to individual CEUD requests.

Xcel reiterated that the Company does not provide anonymized data to third parties. To the

⁵⁹ Minnesota Power Initial Comments, pp. 4-5.

extent that providing anonymized CEUD becomes necessary, Xcel explained that the Department's recommendation presents complicated issues that must be considered and addressed. For instance, it is not clear how Xcel will be able to budget for, and ensure sufficient resources are available to respond to anonymized CEUD requests when the number of future anonymized CEUD requests is unknown and likely to ebb and flow.

V. Considerations Regarding the Continued need for a 5 MW peak Demand Exemption

A. Standards at Present

Although not contained within the Standards themselves, the Commission's March 13, 2023, Order exempts large commercial and industrial ("C&I") customers with peak demands of 5 MW or more from having their data included in aggregated whole-building CEUD data sets and anonymized CEUD data sets.⁶⁰

On August 1, 2023, the Commission issued an Order amending the Standards with the addition of Section III.E. which prevents the energy use data of large C&I customers that are exempt from CIP/ECO from inclusion in aggregated and anonymized CEUD data sets. This amendment ensured that the Standards comply with Minn. Stat. § 216C.331.⁶¹

Staff notes that both exemptions are currently in effect.

B. Discussion

The Department noted that the benefit of retaining the 5 MW peak demand exemption is unclear. Thus, the Department recommended removing the 5 MW exemption **[Decision Option 11]**.

Both MP and OTP explained that the Commission's August 1, 2023, Order requires CIP-exempt customers to be exempt from any data disclosures for which they have not provided written consent, and that the 20 MW peak demand threshold for CIP exemption is much higher than the Commission's current 5 MW peak demand exemption for aggregated building-level and anonymized CEUD requests. MP and OTP continued to support the Commission's 5 MW peak demand exemption for C&I customers as the exemption recognizes the privacy concerns of large load customers that do not satisfy CIP exemption. Both utilities have customers that do not satisfy the 20 MW peak demand threshold for CIP exemption but do have customers that meet the Commission's 5 MW peak demand exemption. Additionally, both Companies noted that it is possible for CIP-exempt customers to lose their exemption. In these instances, the Commission's 5 MW peak demand exemption would continue to protect these customers for certain CEUD requests **[No Action Required]**.

⁶⁰ See Order Paragraph 3 of the Commission's March 13, 2023 Order in Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344.

⁶¹ See August 1, 2023 Order in Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344.

CUB stated that it had no concern with maintaining the policy of exempting large C&I customers with peak demands of 5 MW or more from aggregated building level and anonymized CEUD data sets.

MERC did not see a need to further refine the exemptions granted to large C&I customers at this time. Both CenterPoint and Xcel did not take a position on this issue.

VI. Recommended Corrections

CUB recommended correcting several typos in the Standards:

[Decision Option 12]

Section III.C.: Notwithstanding section III.B, a utility may refuse to provide aggregated or anonymized CEUD when it reasonably believes the data release would create a security risk for the utility, its customer(s), or ~~that the~~ the public, or that the release would allow the third party to re-identify customers, violate the terms of the contract in 2(v) above, or otherwise use the data in violation of these standards.

[Decision Option 13]

Section III.E.: Notwithstanding any other provisions in law or in these Standards, a utility shall not aggregate or anonymize customer energy use data of any customer exempted by the commissioner of commerce under section 216B.241 from contributing to investments and expenditures made by a utility under an energy and conservation optimization plan, unless the customer provides written consent to the utility, pursuant to Minn. Stat. § 216C.331, subd. 8~~(e)~~(d).

Should the Commission not move forward with Decision Option 4, CUB recommends the following correction to Section III.B.(2)(v)(d) of the Standards:

[Decision Option 14]

Section III.B.(2)(v)(d): Require the third ~~a~~-party to have contractual terms for disclosure with contracted entities noted in paragraphs (b) and (c) above that are equivalent to utilities' contracts here-in, and provide executed copies of those agreements to the utility in advance or when they're made;

The Department recommended several small corrections to the Standards:

[Decision Option 15]

Section III.B.1.(vi)(b): Notify any customer whose CEUD triggers a privacy screen failure of the data request, the name and contact information of the entity making the request, and the purpose of the entity's request, and allow the customer to give written permission to include their data in the data set.

[Decision Option 16]

Section III.B.2.(iv)(c): Entities that provide or seek to provide demand response, energy efficiency, or other services to a utility, under the condition that the requested data be used may access anonymized data for the sole purpose of providing such services or preparing a proposal to the utility to do so.

Xcel recommended a small amendment to Standards Section III.B.2.(ii). Xcel noted that the required “customer identification code” could be used to identify a customer if the identification code remained consistent for a single customer across multiple data sets, and a specific customer was removed from certain data sets and not others.

[Decision Option 17]

Section III.B.(2)(ii): *A unique customer identification code shall be assigned to each anonymous customer in a data set. The customer identification code shall remain consistent within the data set and shall not be used in other data sets.*

CUB was the only party to comment in response to the proposed corrections and noted that it supported the corrections proposed by the Department and Xcel.

VII. Other Concerns

Should the Commission require utilities to release anonymized data, Xcel and CenterPoint requested guidance from the Commission on how the Commission’s definition of PII coincides with state breach notification laws. Xcel explains that PII is currently defined within the Standards as:

Customer data which can be used to distinguish or trace the identity of an individual (e.g., name, social security number, biometric records, etc.) alone, or when combined with other personal or identifying information which is linked or linkable to a specific individual (e.g., date and place of birth, mother’s maiden name, etc.).⁶²

Minnesota’s state breach notification statute governs the release of:

an individual’s first name or first initial and last name in combination with any one or more of the following data elements, when the data element is not secured by encryption or another method of technology that makes electronic data unreadable or unusable, or was secured and the encryption key, password, or other means necessary for reading or using the data was also acquired: (1) Social Security number; (2) driver’s license number or Minnesota identification card number; or (3) account number or credit or debit card number, in combination with any required security code, access code, or password that would permit access to

⁶² Standards Section II.F.

*an individual's financial account.*⁶³

Xcel noted that the combination of these definitions leads to a broad, largely undefined scope of customer data making it difficult to assess the risk of whether anonymization will result in re-identification. Additionally, Xcel stated that these inconsistencies make managing CEUD difficult as the Standards define PII as customer data, such as a name or social security number “alone” while the breach notification statute considers a breach as the release of a name “in combination with” other personal information such as a social security number, driver’s license number, etc.

To resolve these inconsistencies, Xcel recommended removing the phrase “alone, or” from the Standard’s definition of PII.

[Decision Option 18]

II.F.: "Personally identifiable information" (PII) means customer data which can be used to distinguish or trace the identity of an individual (e.g., name, social security number, biometric records, etc.) ~~alone, or~~ when combined with other personal or identifying information which is linked or linkable to a specific individual (e.g., date and place of birth, mother’s maiden name, etc.).

Staff notes that, other than CenterPoint’s show of support, no party commented in response to Xcel’s request.

STAFF ANALYSIS

I. Applying the Standards to Use Cases for Anonymized CEUD

The Commission has stated that access to CEUD will help advance the state’s energy goals, including potential energy savings and reductions in greenhouse gas emissions.⁶⁴ Further, the Commission concluded that incrementally applying the Standards would maintain the appropriate balance between customer privacy and access to CEUD.⁶⁵ Staff concurs with CUB that, based on the examples of research provided on the record, anonymized CEUD could aid Minnesota in meeting several of its goals centered around climate, energy, affordability, and equity. This appears to be especially true for anonymized CEUD used for the purpose of research and program design. The results of this type of research are also likely to inform the Commission as it continues to take on issues related to equity and environmental justice, time of use rates, energy efficiency, and utility programming. While the key findings from the research conducted in other states may be insightful, research conducted in Minnesota would be more likely to yield actionable results.

⁶³ Minn. Stat. § 325E.61, subd. 1(e).

⁶⁴ November 20, 2020 Order in Docket Nos. E,G-999/M-19-505 and E,G-999/CI-12-1344, p.6.

⁶⁵ Id.

Outside of providing demand response, energy efficiency, or other services to a utility, it is not clear how many additional uses for anonymized CEUD would be permitted by applying the standards in their entirety as opposed to expanding the standards only to anonymized CEUD requests for study and program design. In other words, should the Commission be convinced by the record that third party access to anonymized CEUD is in the public interest it is unclear how incremental one decision would be compared to the other.

From the examples provided, it would seem that the majority of use cases for anonymized CEUD would be encompassed by the Department's recommendation. Although the Standards would permit third parties that provide or seek to provide demand response, energy efficiency, or other services to a utility to request anonymized CEUD, CUB admitted that they were unable to find any examples of analysis from such parties. Further, to the extent that these parties are working directly with a utility to provide utility services, it is not clear that their inclusion as a third party under the Standards is necessary given that the Standards appear to focus on the release of CEUD to third parties that are not otherwise affiliated with a utility.

There is broad agreement on the record that anonymized CEUD presents a higher risk of re-identification than aggregated CEUD. The Standards protect customer privacy by establishing privacy screens, limiting who may request CEUD, specifying the geographic bounds for CEUD requests, limiting the temporal granularity of CEUD requests, and, on occasion, specifying the applications in which CEUD may be used. The Standards provide additional protections for anonymized CEUD releases by utilizing a stricter privacy screen, and requiring requesters to sign an NDA with the utility. As the Commission contemplates whether, or how, to continue the incremental application of the Standards to encompass use cases for anonymized CEUD it should consider the ways in which the Standards protect customer privacy as options to allow for appropriate access to CEUD while maintaining customer privacy.

Staff reminds the Commission that applying the Standards to use cases for anonymized CEUD does not require utilities to provide this information if they have reason to believe that providing the requested data would create a security risk for the utility, its customer(s), or the public, or that the release would allow the third party to re-identify customers, violate the terms of the anonymized CEUD access contracts, or otherwise use the data in violation of these Standards. Through its comments, Xcel indicated that it views any release of anonymized CEUD as a risk. Staff interprets Xcel's comments as a signal that the Company has, and will continue to, reject all requests for anonymized CEUD unless the Commission explicitly requires them to provide such information to requesting third parties. Through the PUC's information request #3, Xcel clarified that it does not, and has not, ever provided anonymized CEUD to any third party, including Xcel Energy business partners.

Regarding the utilities' request for additional record development, Staff notes that with its November 20, 2020, Order Adopting ODAS, the Commission requested that the Commissioner of Commerce seek authority from the Commissioner of Management and Budget to incur costs necessary to retain an independent expert to provide insights on several comments pertaining

to the Standards at that time. The Commission also directed the Executive Secretary to request technical assistance from the Regulatory Assistance Project (“RAP”), U.S. Department of Energy, or another expert group.

The Executive Secretary was able to receive technical assistance from RAP, which held a technical conference for parties on February 26, 2021, and filed an issue brief on October 25, 2021. The Department was unable to retain an independent expert to provide comments on the record.⁶⁶

Should the Commission agree with the utilities that additional record development is required before the Standards are applied to use cases for anonymized CEUD, the Commission may seek to re-engage RAP specifically regarding the release of anonymized CEUD and/or make a second attempt to retain an independent expert.

Although RAP’s issue brief was not was not focused solely on anonymized CEUD, they did provide information on how other states have tackled third party access to anonymized CEUD. The Illinois Commerce Commission (“ICC”) established a 15/15 anonymization screen and allowed, but did not require, utilities to provide anonymized CEUD to third parties. The ICC didn’t specify any contract or NDA requirements; however, Illinois’ two largest electric investor-owned utilities (“IOUs”) implemented anonymized data access procedures and have adopted NDAs. California adopted a 15/20 anonymization screen and required utilities to provide anonymized CEUD in intervals no shorter than monthly⁶⁷ to researches and government officials. Researchers must sign an NDA with the utility in which they agree to abide by the California PUC’s policies and accept liability for data breaches or prohibited data disclosures. Government officials are not required to sign an NDA but must accept comparable “terms of service” before obtaining anonymized CEUD.

In its issue brief, RAP indicated that Michigan was considering allowing utilities to grant third-party access to anonymized CEUD. Staff notes that since the filing of RAP’s issue brief, the Michigan Public Service Commission (“PSC”) ruled in support of third-party anonymized data access.⁶⁸ However, at this time, the Michigan PSC has not approved any specific anonymization standard or requirements for the release of anonymized CEUD outside of defining anonymized data and supporting third party access to at least 12 months of aggregated and anonymized CEUD within a single rate class.

⁶⁶ August 6, 2021, Department Letter, Docket Nos. E,G999/M-19-505 and E,G999/CI-12-1344.

⁶⁷ Staff notes that California permits yearly, quarterly, and monthly CEUD aggregated and anonymized to the census block group level. See California PUC *Order Instituting Rulemaking to Consider Smart Grid Technologies Pursuant to Federal Legislation and on the Commission’s own Motion to Actively Guide Policy in California’s Development of a Smart Grid System*, Issued May 5, 2014, Order Paragraph 5, p.157.

⁶⁸ September 8, 2022, Order, Michigan PSC Case No. U-20959, *In the matter, on the Commission’s own motion, to commence a collaborative to consider issues related to the further engagement, education, and participation of utility customers*, Order Paragraph E.

II. Modifications to Anonymized Data Access Contract Requirements

As a general note, Staff reminds the Commission that III.B.(2)(v) sets minimum requirements for utilities' anonymized CEUD access contracts. The language in the Standards permits utilities to include additional requirements, such as the data management plans discussed by both CUB and Harrington et al.

RAP's issue brief explained that requesters seeking to access anonymized CEUD in Illinois and California must also sign NDA's or similar contracts directly with the utility before receiving the data. Staff acknowledges the concerns expressed by the utilities in their comments, but notes that signing a contract with a utility to access anonymized CEUD appears to be a common practice across the states that allow third party access to anonymized CEUD. RAP's issue brief included the NDA used by Commonwealth Edison in Illinois, and the California PUC's model NDA for anonymized CEUD access.

No utility provided a response to CUB's requested modification to Section III.B.(2)(v)(d), which would require anyone with access to an anonymized CEUD data set provided by a utility to sign a contract directly with the utility. Absent of any utility opposition, Staff does not see why the Commission should not approve the proposal.

There was broad support for establishing a deletion date for anonymized data provided under the Standards. However, the comments provided by CUB and Harrington et al. explained how the one-year deletion date requested by Xcel would prevent anonymized CEUD from being used for its intended purpose. Additionally, Staff notes that both the language used in Xcel's amendment, and the amendment's location within the Standards, indicates that the one-year deletion date proposed by Xcel would extend to aggregated CEUD requests.

To date, there has been little to no discussion of,⁶⁹ or support for,⁷⁰ a mandatory deletion date for aggregated CEUD. Given utilities' concern with monitoring and enforcing anonymized CEUD access contracts, Staff is surprised that a utility would recommend an amendment that would require them to monitor and enforce deletion dates for every aggregated CEUD request they receive. Additionally, due to the lack of discussion on this topic, it is unclear how such a deletion date would impact those looking to utilize aggregated CEUD.

⁶⁹ Staff notes that no party suggested or discussed the prospect of a mandatory deletion date for anonymized CEUD in response to the Commission's February 11, 2022, notice of comment, which was largely focused on third party access to aggregated CEUD. Additionally, no mandatory deletion dates for aggregated data were noted by RAP in their October 25, 2021 issue brief.

⁷⁰ Staff notes that in its April 29, 2024, reply comments Otter Tail supported Xcel's recommendation that the standards "...be amended to limit the time a third-party requester can retain anonymized CEUD." (Staff added emphasis). Additionally, CUB indicated that a mandatory deletion date for anonymized CEUD would be reasonable, without mentioning aggregated CEUD, and Harrington et al. stated that some of the researches they interviewed who've worked with anonymized CEUD were not required to delete the CEUD at all.

III. Shortest Allowable Time Interval for Anonymized CEUD

There is agreement on the record that intervals as short as hourly would cover the majority of use-cases for anonymized CEUD. Additionally, no utility expressed that they were currently able to produce anonymized CEUD in sub-hourly intervals. However, as explained by CUB and Harrington et al., anonymized CEUD at sub-hourly intervals may be necessary for certain research questions related to outages and appliance usage.

The Standards permit utilities to provide CEUD in as short intervals as practicable, so, if the Commission removed the one-hour interval limit for anonymized CEUD requests, utilities could still reject such requests if they were not able to provide CEUD at the requested interval. However, they would have to reject CEUD requests that would have otherwise not been sent had the current language remained in place.

Should the Commission decide to retain the current hourly minimum timeframe for anonymized CEUD requests, Staff recommends remaining open to reviewing this recommendation in the future after utilities are able to produce sub-hourly anonymized CEUD and have experience providing anonymized CEUD to third parties through the Standards.

IV. Application of Shortest Allowable Time Interval for Anonymized CEUD

The Commission must clarify whether the 15/15 anonymization screen should be applied to each interval of time included within a data set, or the full time period of the data set. Staff agrees that applying the anonymization screen to each interval of time contained within a data set would be a conservative option and would likely provide additional protections for customer's privacy. However, it would come at the cost of making anonymized data prohibitively expensive to generate. The additional protections granted by this method compared to applying the anonymization screen once to the full set of data (for any given customer class) is not known.

Given the complications that come with applying a privacy screen to each interval of time within an hourly data set, Staff questions whether the anonymization screen was intended to be applied in this way. Staff concurs with CUB that the Standard's current language supports the interpretation that the anonymization screen should be applied to the full interval of time within a data set:

Anonymized data sets include CEUD from no fewer than 15 customers. A single customer's energy use must not constitute more than 15 percent of the total energy consumption for the data set (Staff added emphasis).⁷¹

Further, Staff reviewed the Illinois Commerce Commission Order in which the Illinois Commission adopted a 15/15 anonymization screen and confirmed that Illinois' application of

⁷¹ Standards Section III. B.(2)(i).

the 15/15 anonymization screen appears to be consistent with CUB's interpretation. In the Illinois Order, CUB proposed a 15/15 anonymization rule in which:

...utilities would provide 12 months of customer usage data of at least 15 customers organized by groups of customers within the same ZIP +4 area after stripping any identifiable information (name, address, account number, etc.). (Id.). A single customer's load must not comprise more than 15% of the customer group. If the number of customers in the dataset is below 15, or if a single customer's load is more than 15% of the total data, utilities must expand the geographic area, moving to a ZIP+2 level for example (Staff added emphasis).⁷²

The Illinois Commission later adopted CUB's proposed 15/15 rule for anonymized CEUD.⁷³ CUB also proposed Minnesota's anonymization standard. Thus, it is reasonable to suggest that the application of Minnesota's anonymization standard was intended to function similarly to Illinois' anonymization standard. Staff notes that Illinois has been applying the 15/15 anonymization standard in this way since 2014.

However, California does apply its anonymization screen to each interval of data requested.⁷⁴ California only permits the release of anonymized CEUD at monthly, quarterly, and yearly intervals. These larger intervals make the application of anonymization screens less time intensive, and thus more feasible than applying a screen to each hour of an hourly data set that spans months or years.

In its IR to MP, Staff attempted to identify whether an anonymization screen was utilized in MP's release of anonymized CEUD to CUB for their collaboration in 2020, and if so, how that anonymization screen was applied. MP explained that a screen was not required, but CUB did sign a data security addendum to ensure customers' privacy was protected. MP stated that this was directly contracted work for a research partnership with CUB to inform a regulatory proposal and address stakeholder questions about customer impact resulting from a Commission-ordered stakeholder process.

Given this information, there does not appear to be an industry standard application for such screens, and the Commission will need to use the information available to balance customer privacy and access to CEUD.

Regarding the Department's recommendation to have utilities reflect costs and revenues

⁷² Illinois Commerce Commission Docket No. 13-0506, *Investigation of Applicability of Sections 16-122 and 16-108.6 of the Public Utilities Act*. January 28, 2014, Order, p.9

⁷³ Id., p.17.

⁷⁴ California Public Utilities Commission, Docket R.08-12-009, Order Instituting Rulemaking to Consider Smart Grid Technologies Pursuant to Federal Legislation and on the Commission's own Motion to Actively Guide Policy in California's Development of a Smart Grid System, May 1, 2014, pp. 34-35.

associated with responding to data requests for anonymized CEUD in rate cases, so long as the Department acknowledges and has no concerns with the challenges associated with accurately accounting for such costs, Staff does not see an issue with approving the recommendation.

However, as Xcel and MP explained in their comments, it is not clear how larger investments, such as internal IT system enhancements or infrastructure improvements that are necessary to respond to future requests for CEUD, would be applied to individual CEUD requests when the number and the frequency of future CEUD requests is unknown. Staff is interested in hearing from the Department at the agenda meeting on this subject, but notes that no recommendations were provided on this issue.

V. The Continued Need for a 5 MW Peak Demand Exemption

Although the Department noted that the continued need for the 5 MW peak demand exemption was unclear, no other party argued to remove the current exemption.

Should the Commission continue to exempt large C&I customers with peak demands of 5 MW or more from requests from aggregated building level and anonymized CEUD datasets, Staff would recommend amending the Standards to include the exemption:

Staff Decision Option 19

III.F. E. Notwithstanding any other provisions in law or in these Standards, a utility shall not aggregate or anonymize the customer energy use data of large industrial or commercial customers with peak demands of 5 MW or more in response to requests for building level or anonymized CEUD.

VI. Recommended Corrections

Staff notes that no party objected to any of the recommended corrections to the Standards. Staff supports these corrections.

VII. Additional Concerns

Staff notes that the definition of PII used in the Standards was officially adopted by the Commission in a June 24, 2014, Order in Docket No. E,G-999/CI-12-1344.⁷⁵ This definition was based on the definition used by the National Institute of Standards and Technology (NIST). At the time this decision was made, the Commission noted that its adopted definition was intentionally broader than the definition of “personal information” used in Minn. Stat. § 325E.61, subd. 1(e). It was believed that this broader definition would require parties to pay attention to the information that can be used to distinguish or trace the identity of an individual

⁷⁵ See Order Paragraph 2. Staff notes that the definition was later amended by the Commission’s September 9, 2014, Order in the same docket.

when linked with other personal identifying information.⁷⁶

Xcel now proposes the following modification to bring the Commission's definition of PII closer to the definition of "personal information" used in Minn. Stat. § 325E.61, subd. 1(e):

II.F.: "Personally identifiable information" (PII) means customer data which can be used to distinguish or trace the identity of an individual (e.g., name, social security number, biometric records, etc.) ~~alone, or~~ when combined with other personal or identifying information which is linked or linkable to a specific individual (e.g., date and place of birth, mother's maiden name, etc.).

Staff notes that the requested modification retains language that would require parties to pay attention to information that can be used to distinguish or trace the identify of an individual when linked with other personal information, which was an area of emphasis for the Commission in its June 24, 2014, Order. However, it would remove language that allowed some information "alone" to be considered PII under the Standards, but not "personal information" under Minn. Stat. § 325E.61, subd. 1(e). Xcel believes this modification will help clarify what is and is not considered a "re-identification" of a customer.

Given that no other Party commented on this request, Staff would recommend that the Commission hear from parties at the agenda meeting on this topic. Should the Commission choose to move forward with Xcel's recommendation, Staff would recommend modifying the Decision Option to more clearly indicate that the Commission is adopting a new definition of PII and not just amending the definition used within the Standards.

⁷⁶ June 24, 2014, Order in Docket No. E,G-999/CI-12-1344, p.5.

DECISION OPTIONS

Application of the Standards to Use Cases for Anonymized CEUD

1. Apply the Standards in their entirety. [CUB]
- OR
2. Apply the Standards to anonymized CEUD requests only for study and program design. [DOC]
- OR
3. Modify the Standards to exclude anonymized CEUD. [OTP]

Modifications to the Anonymized Data Access Contract Requirements

4. Make the following amendment to the Standards at Section III.B.(2)(v)(d): [CUB, Harrington et al.]

~~Section III.B.(2)(v)(d) Require the third a party to have contractual terms for disclosure with contracted entities noted in paragraphs (b) and (c) above that are equivalent to utilities contract here in and provide executed copies of those agreements in advance or when they're made;~~ Prohibit the third party from disclosing the CEUD to any individuals unless an individual has first executed a reasonable nondisclosure agreement with the utility consistent with this section;

5. Amend the Standards by adding the following language at Section III.F. to require third parties to delete aggregated and anonymized CEUD after one year: [Xcel, OTP]

Section III.F. A third party that has received aggregated or anonymized CEUD shall delete the data once it is no longer required or 12 months after received (whichever is sooner).

OR

6. Amend the Standards at Section III.B.(2)(vi) by adding the following language regarding the mandatory deletion of anonymized CEUD: [Staff Interpretation of CUB, Harrington et al.]

III.B.(2)(vi) Through a contract described in paragraph (v) utilities may require the deletion of anonymized CEUD in a manner that:

- (a) Allows a third party to retain data for a minimum of five years;
- (b) Allows a third party to comply with any applicable data retention requirements, such as federal grant requirements, Institutional Review Board requirements, or other similar circumstances.
- (c) Allows for a sufficient amount of time for the academic publication process, including analysis, peer review, and final publication; and
- (d) Allows a third party to extend this timeline in order to use anonymized CEUD in a subsequent analysis, so long as such analysis is in compliance with the

Standards; or

(e) Provides an alternative timeframe for data deletion, by mutual agreement of the utility and the third party.

Anonymized CEUD Shortest Allowable Time Interval

7. Allow third parties to request CEUD in sub-hourly intervals by amending the Standards as follows: [CUB, Harrington et al.; OTP and MP Opposed]

Section IV.A. Utilities will provide CEUD in as short intervals as practicable, with aggregated CEUD reported in intervals no shorter than monthly, ~~and anonymized CEUD reported in intervals no shorter than hourly.~~

Application of Shortest Allowable Time interval for Anonymized CEUD

8. Clarify that the 15/15 anonymization screen applies to the full time period of data in any report. [CUB, Harrington et al.]

OR

9. Clarify that the 15/15 anonymization screen applies to each interval of time contained within a data set. (Example: each hour of an hourly anonymized data set must pass the 15/15 anonymization screen.) [MERC, MP, OTP, Xcel]
10. Require Utilities to reflect costs and revenues associated with responding to data requests for anonymized CEUD in rate cases. [DOC]

The 5 MW Peak Demand Exemption

11. Remove the 5 MW peak demand exemption [DOC]

Corrections

12. Make the following technical correction to the Standards: [CUB]

Section III.C.: Notwithstanding section III.B, a utility may refuse to provide aggregated or anonymized CEUD when it reasonably believes the data release would create a security risk for the utility, its customer(s), or ~~that the~~ public, or that the release would allow the third party to re-identify customers, violate the terms of the contract in 2(v) above, or otherwise use the data in violation of these standards.

13. Make the following technical correction to the Standards: [CUB]

Section III.E.: Notwithstanding any other provisions in law or in these Standards, a utility shall not aggregate or anonymize customer energy use data of any customer exempted by the commissioner of commerce under section 216B.241 from contributing to

investments and expenditures made by a utility under an energy and conservation optimization plan, unless the customer provides written consent to the utility, pursuant to Minn. Stat. § 216C.331, subd. 8~~(e)~~(d).

(Staff Note: Should the Commission approve Decision Option 4; it does not need to approve Decision Option 14. Decision Option 4 replaces the language amended in Decision Option 14.)

14. Make the following technical correction to the Standards: [CUB]

Section III.B.(2)(v)(d): Require the third ~~a~~-party to have contractual terms for disclosure with contracted entities noted in paragraphs (b) and (c) above that are equivalent to utilities' contract~~s~~ here-in~~d~~, and provide executed copies of those agreements to the utility in advance or when they're made;

15. Make the following technical correction to the Standards: [DOC, CUB]

Section III.B.1.(vi)(b): Notify any customer whose C~~E~~UD triggers a privacy screen failure of the data request, the name and contact information of the entity making the request, and the purpose of the entity's request, and allow the customer to give written permission to include their data in the data set.

16. Make the following technical correction to the Standards: [DOC, CUB]

Section III.B.2.(iv)(c): Entities that provide or seek to provide demand response, energy efficiency, or other services to a utility, under the condition that the requested data be used ~~may access anonymized data~~ for the sole purpose of providing such services or preparing a proposal to the utility to do so.

17. Make the following technical correction to the Standards: [Xcel, CUB]

Section III.B.(2)(ii): A unique customer identification code shall be assigned to each anonymous customer in a data set. The customer identification code shall remain consistent within the data set and shall not be used in other data sets.

Other Concerns

18. Amend the Standard's definition of Personally Identifiable Information to better align with the definition of "personal information" included in Minn. Stat. § 325E.61, subd. 1(e): [Xcel]

II.F.: "Personally identifiable information" (PII) means customer data which can be used to distinguish or trace the identity of an individual (e.g., name, social security number, biometric records, etc.) ~~alone, or~~ when combined with other personal or identifying information which is linked or linkable to a specific individual (e.g., date and place of birth, mother's maiden name, etc.).

19. Modify the Standards to include the Commission's ... exemption to large industrial and commercial customers with peak demands of 5 MW or greater: (Staff Decision Option)

III.F. E. Notwithstanding any other provisions in law or in these Standards, a utility shall not aggregate or anonymize the customer energy use data of large industrial or commercial customers with peak demands of 5 MW or more in response to requests for building level or anonymized CEUD.

APPENDIX A

Open Data Access Standards

I. Purpose and Scope

- A. These standards apply to investor-owned electric or gas public utilities with greater than 50,000 customers within the state of Minnesota. They are intended to set standards for the collection and sharing of customer energy use data (CEUD) for use by third parties, as defined below. In particular, these standards are designed to ensure that:
- (1) Third parties may access aggregated or anonymized, disaggregated CEUD;
 - (2) The data be identified at the closest level of geographical specificity possible to maintain customer anonymity and at the finest practicable time interval;
 - (3) The utility, to the best of its ability, shall in a timely manner furnish this data in a consistent, standard format aligned with industry best practices regarding ease of access and granularity of data; and
 - (4) Unless authorized by a customer, a third party shall not have access to any personally identifiable information for a customer.

II. Definitions

- A. “Aggregated customer energy use data” refers to the data of individual customers located in a defined geographical area, which is combined into one collective data point per time interval.
- B. “Anonymized customer energy use data” refers to the data of individual customers, which has been modified sufficiently to prevent the release of personally identifiable information, collected over a number of time intervals from a defined geographical area.
- C. “Customer” means a person contracting for or purchasing electric or natural gas service at retail from an investor owned electric or gas public utility with customers greater than 50,000 within the state of Minnesota.
- D. “Customer energy use data” (CEUD) refers to data collected from the utility customer meters that reflect the quantity, quality, or timing of customers’ natural gas or electric usage or electricity production. For the purposes of these Open Data Access Standards, CEUD includes data regarding:
- (1) the amount and timing of energy use and production;

- (2) peak load contributions and the amount and timing of demand; and
 - (3) rate class.
- E. “Interval data” means CEUD that is collected and compiled for a particular interval of time—including but not limited to intervals of minutes, hours, or day, but no greater than one month—for an individual customer or for a collective data set.
- F. “Personally identifiable information” (PII) means customer data which can be used to distinguish or trace the identity of an individual (e.g., name, social security number, biometric records, etc.) alone, or when combined with other personal or identifying information which is linked or linkable to a specific individual (e.g., date and place of birth, mother’s maiden name, etc.).
- G. “Regional Unit of Government” means a regional planning board, regional development commission, and the Metropolitan Council as defined by Minnesota Statute Chapters 462 and 473.
- H. “Tax exempt organization” means a business entity organized in the United States for a nonprofit purpose and that is exempt from paying federal income tax pursuant to the Internal Revenue Code.
- I. “Third party” means a person or entity who requests CEUD other than their own from the utility that maintains the data.
- J. “Utility” means an investor-owned electric or gas public utility with customers greater than 50,000 within the state of Minnesota.

III. Third Party Access to Customer Energy Use Data and Customer Privacy Protection

- A. A utility must prepare and make available aggregated and/or anonymized CEUD upon the written or electronic request of any qualifying third party. The procedure a utility uses to allow a person to request this data must be (1) convenient for the typical third party, and (2) available on the utility's website. Additionally, a utility will make available the contact information for third-party CEUD requests and inquiries on the utility’s website. Such sets must consist of the past 24 months of historical CEUD in the smallest interval practicable unless otherwise requested by the customer or authorized third party.
- B. CEUD provided may include aggregated and anonymized sets of customer energy use data.

(1) Aggregated CEUD

- (i) Aggregation standard: An aggregated customer energy use data set may include CEUD from no fewer than 4 customers. A single customer's energy use must not constitute more than 50 percent of total energy consumption for the requested data set.
- (ii) CEUD data sets containing 3 or fewer customers or with a single customer's energy use constituting more than 50 percent of total energy consumption may be provided upon the written consent of (1) all customers included in the requested data set, in cases of 3 or fewer customers, and (2) any customer constituting more than 50 percent of total energy consumption for the requested data set.
- (iii) Aggregated CEUD may be requested by customer class and/or building or property, defined municipal boundary, county boundary, U.S. Census boundary, or U.S. postal code, provided that no data set violates paragraphs (i) and (ii).
- (iv) Aggregated CEUD may be requested by:
 - (a) Tax-exempt organizations based within the United States;
 - (b) U.S. Federal Government agencies and subdivisions thereof; State of Minnesota government agencies, boards, and/or commissions; regional or local government entities with jurisdiction within Minnesota; and government entities of federally recognized tribes that share Minnesota's geography; and
 - (c) Property owners or managers, so long as the CEUD requested applies only to the property the requestor owns or manages.
- (v) Aggregated CEUD at other than whole building level shall be provided in a machine-readable format including (at a minimum):
 - (a) Customer class including, at a minimum, commercial, industrial, and residential. (These classes shall be inclusive of all customers served. Classes may be combined if a dataset violates the privacy screen).
 - (b) Number of customers by customer class.
 - (c) Energy consumption (kWh or therms) by customer class.
 - (d) Number of customers removed from the dataset by customer class.

(vi) A utility will follow this order of operations when applying the aggregation standard. At any point, when the data meets the privacy screen it will be released. Requesters may identify which solutions work for their needs at the time of request.

(a) First seek to report the aggregated CEUD of residential, commercial, and industrial classes separately. These classes shall be inclusive of all customers served.

(b) Notify any customer whose CUD triggers a privacy screen failure of the data request, the name and contact information of the entity making the request, and the purpose of the entity's request, and allow the customer to give written permission to include their data in the data set.

(c) Combine commercial and industrial classes into one class (nonresidential).

(d) Remove the CEUD of each customer that triggers a failure of the aggregation screen, and report the number of customers excluded from the data set.

(e) If the nonresidential class still fails the privacy screen, report residential customer CEUD only.

(f) If the residential customer class still fails the privacy screen, exclude the residential class and report only commercial and industrial (or nonresidential).

(g) If all classes fail, combine all classes (total energy).

(vii) Notwithstanding paragraphs (i) and (ii), individual customer CEUD that is publicly reported will be included in aggregated data sets, regardless of whether the customer's usage triggers a failure of the aggregation standard, so long as the time scale of the requested data set and the public data set are equivalent.

(2) Anonymized CEUD

(i) Anonymization standard: Anonymized data sets may include CEUD from no fewer than 15 customers. A single customer's energy use must not constitute more than 15 percent of total energy consumption for the data set.

(ii) A unique customer identification code shall be assigned to each anonymous customer in a data set. The customer identification code shall remain consistent within the data set.

(iii) Anonymized data sets may be requested by customer class and/or defined municipal boundary, county boundary, U.S. Census boundary, or U.S. postal code provided that no data set violates paragraph (i).

(iv) Anonymized CEUD may be requested by:

(a) Tax-exempt organizations based within the United States;

(b) U.S. Federal Government agencies and subdivisions thereof; State of Minnesota government agencies, boards, and/or commissions; regional or local government entities with jurisdiction within Minnesota; and government entities of federally recognized tribes that share Minnesota's geography.

(c) Entities that provide or seek to provide demand response, energy efficiency, or other services to a utility may access anonymized data for the sole purpose of providing such services or preparing a proposal to the utility to do so.

(v) A utility may refuse to provide CEUD to a third party requesting anonymized data if the third party does not sign a contract with the utility that must at a minimum:

(a) Prohibit the third party from attempting to reverse engineer data or reidentify customers included in a data set;

(b) Require a third-party to disclose all of the third party's employees, subcontractors, or agents with access to the data set at the time of the contract and require this to be updated if it changes during the life of the contract;

(c) Prohibit the third party from disclosing anonymized data except to the third party's personnel or to entities with whom the third party has a contractual relationship for the purpose of conducting an investigation with the anonymized data;

(d) Require the third a party to have contractual terms for disclosure with contracted entities noted in paragraphs (b) and (c) above that are equivalent to utilities contract here in and provide executed copies of those agreements in advance or when they're made;

- (e) Hold the third party responsible for its actions with the data;
 - (f) Require the third party to promptly delete data and notify the utility if it discovers any PII contained in the data set; and
 - (g) Require the third party to state its intended use for the data.
- (3) Each utility covered under these standards must file their contract form developed pursuant to 2(v) above with the Commission.
 - (4) The Commission may set alternative aggregation or anonymization standards upon the petition of any party, as long as those new standards do not restrict public access to energy data deemed in the public interest nor allow for the identification of individual customers within a data set.
- C. Notwithstanding section III.B, a utility may refuse to provide aggregated or anonymized CEUD when it reasonably believes the data release would create a security risk for the utility, its customer(s), or that public, or that the release would allow the third party to re-identify customers, violate the terms of the contract in 2(v) above, or otherwise use the data in violation of these standards.
 - D. A utility that refuses to provide requested CEUD for any reason must provide a timely, written explanation to the requester explaining the utility's reason(s) for refusing to provide the requested CEUD.
 - E. Notwithstanding any other provisions in law or in these Standards, a utility shall not aggregate or anonymize customer energy use data of any customer exempted by the commissioner of commerce under section 216B.241 from contributing to investments and expenditures made by a utility under an energy and conservation optimization plan, unless the customer provides written consent to the utility, pursuant to Minn. Stat. § 216C.331, subd. 8(c).

IV. Data Type and Format

- A. Utilities will provide CEUD in as short intervals as practicable, with aggregated CEUD reported in intervals no shorter than monthly, and anonymized CEUD reported in intervals no shorter than hourly.
- B. Utilities will work with third parties to provide CEUD in a manner that reasonably facilitates ease of access, ease of CEUD preparation, and comports with accepted data handling standards.

- C. Utilities will clearly indicate how the utility defines which class a customer belongs to when providing CEUD and how customer location is determined.

V. Delivery of Data

- A. Utilities shall work with third parties to facilitate timely and secure delivery of CEUD. Disputes may be brought to the Commission for resolution.

VI. Fees and Cost Recovery

- A. A utility may charge the requester a fee to prepare and supply CEUD. A utility charging a data access fee authorized by this section must:
 - (1) base the fee amount on the actual costs incurred by the utility to create and deliver the requested data;
 - (2) consider the reasonable value of the data prepared to the utility and, if appropriate, reduce the fee assessed to the requesting person;
 - (3) provide the requesting person with an estimate and explanation of the fee; and
 - (4) collect the fee before preparing or supplying the requested data.
- B. Notwithstanding section VI.A, utilities shall provide data aggregated at the county, municipal, and building levels at no charge.