



414 Nicollet Mall  
Minneapolis, MN 55401

June 6, 2014

Tammy Pust  
Chief Judge and CEUD Workgroup Facilitator  
Minnesota Office of Administrative Hearings  
600 N. Robert Street  
St. Paul, MN 55164

RE: INFORMAL CEUD WORKGROUP COMMENTS  
PRIVACY POLICIES OF RATE-REGULATED ENERGY UTILITIES  
DOCKET NO. E,G999/CI-12-1344

Dear Judge Pust:

Northern States Power Company, doing business as Xcel Energy, submits these Comments in follow-up to the May 16, 2014 meeting of the Minnesota Public Utilities Commission Customer Energy Usage Data (CEUD) Workgroup. Our comments are responsive to your request for participant comments regarding Steps 5 and 6 of the Workgroup's Outline, and how participants believe recent CEUD-related decisions in California may be able to be applied in Minnesota.

We continue to believe the Workgroup has been a valuable process to begin the exploration of important issues related to expanding access to utility customer data for purposes of furthering state energy goals. While the Workgroup may not be in a position to provide a fully-developed set of recommendations to the Commission, the meaningful dialogue and exploration of issues has resulted in some areas of consensus – and, we believe, a greater appreciation by all parties of each other's perspectives and the complexities involved in this issue.

The Commission's objective for the CEUD Workgroup is for it to make recommendations on the appropriate use and limitations on use of CEUD, balancing customer privacy and the state's energy goals. Steps 5 and 6 of the Outline the Workgroup developed to achieve its charge, involve examination of cost recovery and reporting considerations, and protection and liability considerations related to expanded access to utility CEUD and Customer Program Participation Data (CPPD).

We have largely provided comments regarding these considerations in our oral comments and other documents either filed in the Docket or submitted as part of the Workgroup process. Therefore, in this document, we summarize our high-level beliefs regarding these considerations. We also:

- Summarize our view of how the recent decisions regarding third-party access to CEUD in California may inform practice in Minnesota, and
- Share the outcome of a recent survey we did with our customers regarding energy usage data access, privacy and confidentiality expectations that we thought would provide helpful customer perspective on the issues that the Workgroup has considered over the last several months.

#### **A. Protection, Liability, and Cost Recovery Considerations**

We believe that the Commission should develop a practical framework for access and use of customer usage and participation data that addresses its costs, and appropriately places accountability and liability for such access and use on responsible parties. As such, we believe the following protection, liability, and cost recovery elements are essential to an effective framework for access and use of CEUD/CPPD:

- *Customer notice.* Customers should be afforded the opportunity to understand what data is collected by utilities, how that data is used and maintained, and how it may be shared with other entities, such as governmental entities, contracted agents or third parties;<sup>1</sup>
- *Customer control.* There should be standards that ensure customer consent is required for third party access to customer-specific CEUD/CPPD, that the consent to access is informed, and that the method of consent facilitates reasonable authentication by energy utilities, but is not an unnecessary burden for third parties seeking granular customer data for state energy purposes;
- *Contracted Agents.* Utilities should be allowed to share the data they believe is necessary with their Contracted Agents without requiring consent, so long as the utility takes reasonable steps (consistent with our prior comments in this matter) to ensure that the customer's data remains secure and will not be used for a secondary purpose;
- *Accountability for third parties.* Granting expanded access to customer-specific CEUD and/or CPPD to third parties must be balanced with commensurate levels of accountability regarding its use and maintenance;
- *Limits on utility liability.* In the event a utility or its Contracted Agent fails to properly protect CEUD, we acknowledge that affected customers may seek to hold the utility and/or its Contracted Agent accountable for associated

---

<sup>1</sup> For purposes of these comments, Xcel Energy defines third parties as entities that are not governmental, and are not Contracted Agents involved in the utility's provision of regulated utility service.

damages that may occur. However, the responsibility of the utility for release of CEUD should end at the point data is properly released: (1) as required by law; (2) in response to a customer request involving informed consent, and (3) with respect to aggregated data reports using an objective standard that reasonably preserves customer privacy and confidentiality; and

- *Cost-neutral to utilities.* Utilities must be provided a clear path to recover the costs they incur associated with providing greater and/or standardized customer-specific and aggregated CEUD/CPPD access and reporting. A key policy issue is whether the related cost is borne by all customers as a cost of service, or limited to the requestor/cost causer.

## **B. California Privacy Framework Applied to Minnesota**

The California Commission's May 5, 2014 *Decision Adopting Rules To Provide Access to Energy Usage and Usage-Related Data while Protecting Privacy of Personal Data* in Rulemaking Docket No. 08-12-009, allowed disclosure of varying types of aggregated or anonymous customer energy usage data, depending on the requestor. We believe that there may be elements of the recently-adopted rules in California that could be applied in Minnesota to form a framework for access to CEUD/CPPD, but only after careful consideration of the policy implications and examination of Minnesota's supporting statutory and regulatory framework, as compared to California.

One of these elements may be a centralized or utility-specific database of aggregated CEUD and CPPD that could serve to fulfill the desire for geographic-based information, paired with guidelines and standards for energy utilities to respond to other, specialized data requests, such as for whole building data. We believe this dual approach may serve to streamline utility provision of aggregated data to further state energy policy goals in a way that may reduce the ultimate costs of expanding access.

We note that the Workgroup met via conference call on May 21 to talk about the scope of the potential database of aggregated CEUD, that we understand will be summarized by participant Brendon Slotterback, City of Minneapolis. We outline the general framework that Xcel Energy supports for the potential database in *Part 3* of this section of our comments. We also note that, in response to interest from participants on the conference call, on July 8, 2014, Xcel Energy will host a webcast for the CEUD Workgroup to demonstrate a tool, still very much in the exploratory stage, that provides a map-based view of aggregated CEUD by zip code and neighborhood. This is one of the concepts we have been exploring as part of our work with the City of Minneapolis and the DOE as part of our Data Accelerator partnership.

## 1. *Elements of the California Rulemaking*

In adopting its recent Rules, the California Commission relied on many specific California statutes, which to the best of our knowledge, have no Minnesota corollary. Therefore, before we embark on a path to consider adoption of standards and policies being implemented in California, there must be significant consideration of the legal and regulatory framework that exists in California compared to Minnesota. In this section of our comments, we outline elements of the recent California decision and provide a high-level comparison to existing legal and regulatory structure in Minnesota.

The California Order applied the 15/15 rule for public release (published on utility websites) of the aggregated energy usage data by zip code of commercial, industrial and agricultural customers, and applied a threshold minimum of 100 residential customers in a zip code for aggregated release of residential energy usage information. (Order, pages 25-27.)

California local governments had also requested access to more granular usage information to complete their climate action plans and promote energy efficiency. The Order allows access to aggregated and anonymized usage data, applying a 15/20 rule for residential, commercial and agricultural customers (e.g. at least 15 customers, no one customer accounting for 20 percent of the total consumption), and applied a 5/25 rule for industrial customers. (Order, pages 33-34.) While local government entities can receive customer data aggregated at more granular levels than what is provided from the utilities' websites, they must also agree to terms of service that prohibit them from making the information public or sharing it with third parties. We note that this particular use case did not include using this information for purposes of performing building benchmarking services. (Order, page 36.)

The Order allows research institutions to obtain anonymous, individual hourly energy consumption data with other energy-related characteristics to evaluate energy policies, including energy efficiency programs and rate design, and publishing results as statistical coefficients. The Order requires the utilities to provide such information, without individual customer consent, for qualified research institutions, such as the University of California and accredited, non-profit universities, upon the signing of a Non-Disclosure Agreement that puts limits on their ability to further distribute the information and requires agreement by the research institution to accept liability for data breaches and prohibited disclosures. (Order, page 40-43.)

The California Commission also ruled that the California Energy Commission (CEC) should be able to receive information on energy usage in state buildings, including billing, monthly consumption, 15-minute consumption, and energy savings. (Order, page 40-48.)

The Order denied the request of Solar City, that utilities analyze customer usage data to better understand opportunities to deploy distributed renewable energy and energy efficiency improvements at customers' homes. The Order, instead, encouraged Solar City to seek this information directly from customers. (Order, pages 52-57.)

## 2. *Statutory Framework Discussion*

As discussed above, the California Commission provided some guidance regarding appropriate levels of protection for anonymized and aggregated customer usage data, but recognized that California law also allowed broader access to research institutions and the CEC. For research institutions, the California decision concluded (at p. 13) that it had the authority to obtain data of policy and economic interest from regulated utilities and, under California law, provide that data to researchers when certain conditions are met. The decision also concluded that the California Commission had ample authority to order the transfer of the same data from utilities directly to those requesting the information to support energy policy. The order cited Cal. Civ. Code §1798.24(e)-(f)<sup>2</sup> and Government Code §6254.5.<sup>3</sup> We are unaware of any similar Minnesota statutes granting similar authority to the Commission.

In allowing CEC access, the Order stated that “the Public Resources Code §§ 25216 and 25216.5 vest the CEC with broad authority to collect from all available sources information on all forms of energy supply, demand, conservation, public safety, research, and related subjects – including [energy efficiency] and consumption data.” (Order, p. 47)<sup>4</sup> To the best of our knowledge, there are no corresponding Minnesota

---

<sup>2</sup> Cal. Civ. Code §1798.24(e)-(f) provide as follows:

**1798.24.** No agency may disclose any personal information in a manner that would link the information disclosed to the individual to whom it pertains unless the information is disclosed, as follows:

(e) To a person, or to another agency where the transfer is necessary for the transferee agency to perform its constitutional or statutory duties, and the use is compatible with a purpose for which the information was collected and the use or transfer is accounted for in accordance with Section 1798.25. With respect to information transferred from a law enforcement or regulatory agency, or information transferred to another law enforcement or regulatory agency, a use is compatible if the use of the information requested is needed in an investigation of unlawful activity under the jurisdiction of the requesting agency or for licensing, certification, or regulatory purposes by that agency.

(f) To a governmental entity when required by state or federal law.

<sup>3</sup> California Government Code §6254.5 provides as follows:

**6254.5.** Notwithstanding any other provisions of the law, whenever a state or local agency discloses a public record which is otherwise exempt from this chapter, to any member of the public, this disclosure shall constitute a waiver of the exemptions specified in Sections 6254, 6254.7, or other similar provisions of law.

<sup>4</sup> California Public Resources Code §§ 25216 and 25216.5 state as follows:

**25216.** In addition to other duties specified in this division, the commission shall do all of the following:

(a) Undertake a continuing assessment of trends in the consumption of electrical energy and other forms of energy and analyze the social, economic, and environmental consequences of these trends; carry out directly, or cause to be carried out, energy conservation measures specified in Chapter 5 (commencing with Section

Statutes that would afford such authority to a similar entity in Minnesota, with the exception of the Commission itself, or possibly the Department of Commerce.

Therefore, as we noted previously, before the Commission considers adoption of certain elements of the May 5, 2014 California Order, a careful consideration of the policy implications and thorough review of Minnesota's underlying statutory and regulatory framework is necessary.

### 3. *Public Database of Aggregated CEUD/CPPD*

As noted above, Xcel Energy conceptually supports the development of a database of utility CEUD/CPPD, such as was approved as part of the California Order. In California, utilities will publish the data of their customers on their respective websites, and this set of data is expected to satisfy the majority of the data requests – marginalizing the custom reports utilities would be expected to provide in response to

---

25400) of this division; and recommend to the Governor and the Legislature new and expanded energy conservation measures as required to meet the objectives of this division.

(b) Collect from electric utilities, gas utilities, and fuel producers and wholesalers and other sources forecasts of future supplies and consumption of all forms of energy, including electricity, and of future energy or fuel production and transporting facilities to be constructed; independently analyze such forecasts in relation to statewide estimates of population, economic, and other growth factors and in terms of the availability of energy resources, costs to consumers, and other factors; and formally specify statewide and service area electrical energy demands to be utilized as a basis for planning the siting and design of electric power generating and related facilities.

(c) Carry out, or cause to be carried out, under contract or other arrangements, research and development into alternative sources of energy, improvements in energy generation, transmission, and siting, fuel substitution, and other topics related to energy supply, demand, public safety, ecology, and conservation which are of particular statewide importance.

**25216.5.** The commission shall do all of the following:

(a) Prescribe the form and content of applications for facilities; conduct public hearings and take other actions to secure adequate evaluation of applications; and formally act to approve or disapprove applications, including specifying conditions under which approval and continuing operation of any facility shall be permitted.

(b) Prepare an integrated plan specifying actions to be taken in the event of an impending serious shortage of energy, or a clear threat to public health, safety, or welfare.

(c) Evaluate policies governing the establishment of rates for electric power and other sources of energy as related to energy conservation, environmental protection, and other goals and policies established in this division, and transmit recommendations for changes in power-pricing policies and rate schedules to the Governor, the Legislature, to the Public Utilities Commission, and to publicly owned electric utilities.

(d) Serve as a central repository within the state government for the collection, storage, retrieval, and dissemination of data and information on all forms of energy supply, demand, conservation, public safety, research, and related subjects. The data and information shall be derived from all sources, including, but not be limited to, electric and gas utilities, oil and other energy producing companies, institutions of higher education, private industry, public and private research laboratories, private individuals, and from any other source that the commission determines is necessary to carry out its objectives under this division. The commission may charge and collect a reasonable fee for retrieving and disseminating any such information to cover the cost of such a service. Any funds received by the commission pursuant to this subdivision shall be deposited in the account and are continuously appropriated for expenditure, by the commission, for purposes of retrieving and disseminating any such information pursuant to this section.

specific requests. If successful, it is expected that this approach will facilitate an operationally-efficient and cost-effective solution to expanded data access, which will benefit both parties desiring the data, and utilities.

Some CEUD Workgroup participants believe that the database should be centralized. While we agree that there could be some efficiencies in a centralized model, in that only the centralized entity would acquire and maintain the expertise and tools to aggregate and/or anonymize and publish the data, there also will be additional complexities, at least in its implementation. We believe either a utility-specific mechanism or centralized model may work, as long as the Commission establishes consistent aggregation and anonymization standards that would apply to the sharing of the data, and the entity accountable for the centralized data is also accountable for its appropriate use and treatment. We also believe that the centralized database concept could be implemented in a phased approach, with utilities initially publishing the aggregated data of their own customers on their own websites.

Regardless, after establishment of the aggregation/anonymization standards, we believe the structure and function of the publicly-available database is the most important area for the Commission to focus its attention. We believe the database should be *one set of data that contains one physical location identifier*, such as zip code; if there are multiple reports or sets of data available, such as by political boundary, zip code, and census block or tract, database users may be able to overlay different data sets that would inadvertently and inappropriately expose the data of individual customers. However, if the Commission decides that a single geographic identifier is too restrictive, it could establish a governance structure that would subject all requested reports to a review process designed to ensure that customers' data is not inadvertently compromised through the layering of multiple requests.

Finally, assuming there is sufficient statutory and/or regulatory structure to support this approach to expanded data access, there is also the issue of cost. The California model makes the cost of the utility-specific web database and fulfillment of special requests a cost of service that is borne by all customers, and tracked by the utility in a memorandum account to ensure that costs do not become stranded between rate cases. Our understanding is that the cost-of-service approach was a policy decision that was largely based on the belief that the public database will satisfy the overwhelming majority of the data needs.

### **C. Direct Customer Input**

To date, the Workgroup has not received any direct public comments or involvement regarding access to CEUD or CPPD, and we are unaware of any direct customer input or feedback in the Commission's overall proceeding that is examining privacy

policies of energy utilities. We believe that utility customer perspective is important to the Commission's consideration of the public policy issues associated with creation of a privacy framework for energy-related data in Minnesota.

As previously stated in oral comments to the Workgroup, in February 2014, we asked a customer panel that we use for feedback on timely subjects to provide their perspective on energy usage data access, privacy and confidentiality expectations. We provide the results of that survey as Attachment A to these comments, and provide a summary below:

1. *What is the Customer Panel?*

The purpose of Xcel Energy's Customer Panel is to gather insights, perceptions, and satisfaction levels on a wide range of electric and natural gas issues. It provides a platform to capture feedback on topics such as energy conservation, product and concept testing, ideation, program evaluation, website optimization, and outage management. Vision Critical, an industry leader in community panel platforms, assisted us in establishing the panel, and its ongoing use for this element of our market research needs.

We established the Panel in the last half of 2013 by inviting Xcel Energy customers in Minnesota and Colorado to participate. Participants who opted to participate provided specific demographic and firmographic information, such as location, household or business characteristics, and industry classifications. Our residential panel totals approximately 3,900 customers; our business panel, comprised of small and mid-size businesses, totals approximately 400 customers.<sup>5</sup> We generally utilize the panels 2-4 times per month, with the studies following all standard market research practices. The statistical significance is very robust, particularly with the residential panel that includes thousands of customers – and for both groups, rivals or exceeds the statistical relevance of the traditional market research we conduct.

2. *Overview of CEUD Research Results*

Approximately 1,250 residential and 150 business customers responded to our survey regarding energy usage data access, privacy and confidentiality expectations. Overall, it was clear that our customers have differing levels of expectation and concern regarding who has access to their CEUD, and the level of control that they would want to exercise over that access. Close to 90 percent of both residential and business customers expressed an opinion regarding whether Xcel Energy should share monthly

---

<sup>5</sup> We note that we rely on our Account Management team to provide insights from our large business customers, and that our business panel would not include the large industrial customers that Workgroup participant Drew Moratzka represents.

CEUD with third parties that ask for it, without the customer's consent and knowledge.<sup>6</sup> Overall, approximately 75 percent of residential and 60 percent of business customers expressed some level of concern at third parties having access to their monthly CEUD without their knowledge and consent.

In terms of the types of third parties that would concern our customers, not surprisingly, over 80 percent of both residential and business customers said Xcel Energy should obtain their consent before providing monthly CEUD to Marketing or other companies that sell projects or services; in descending order, on average, they felt we should gain customer consent approximately 60 percent of the time for Data Aggregators, 56 percent of the time with Local Governments administering environmental programs, and 57 percent of the time with Landlord or Property Managers. It was also clear that a significant portion of our customers do not know whether or in what circumstances we share their information with third parties.

We believe that these results underscore the importance of transparency regarding data collection and use to support primary purposes, and the need to provide customers with options to control third party access for secondary, or non-utility service-related purposes. While it is apparent that some customers will care more about these issues than others, we believe customers expect some level of control, and certainly, notice of how this type of data is maintained and shared. For these reasons, we continue to support a framework that places control over third party access with the customer. We note that, in light of these results, we are also assessing ways to further enhance our customers' awareness of our Privacy Policy and related practices.

Dated: June 6, 2014

Northern States Power Company

---

<sup>6</sup> The market research questionnaire defined "third party" as referring to an entity not affiliated with Xcel Energy.

## Xcel Energy Customer Panel Result Summary

### Customer Energy Usage Data Access, Privacy, and Confidentiality Expectations February 2014

#### Background

Xcel Energy utilizes customer panels to reach out to residential and small-medium sized business customers frequently, on a variety of topics, including program design and marketing preferences. We engaged these customer groups to give feedback on the topic of energy usage data access, privacy and confidentiality expectations.

A total of 1,250 residential customers responded, and 155 business customers responded. These numbers are considered statistically significant for our customer population. When comparing results between CO and MN customers, there were minor differences, but not considered significant to the results presented below.

#### Third Party Access to Individual Usage Data

**Do you currently believe Xcel Energy currently shares your energy usage data with 3<sup>rd</sup> parties without your knowledge and consent?**

|                                     | Residential | Business |
|-------------------------------------|-------------|----------|
| <b>Yes, in some cases</b>           | 32.32%      | 26.49%   |
| <b>No, never without my consent</b> | 8.80%       | 12.58%   |
| <b>Don't know</b>                   | 58.88%      | 60.93%   |

This question sets out to understand what customers think their utility is doing with their energy data. As responses indicated, the answer is fairly clear: most people do not know. This can be attributed to the proliferation of information in the media about how much data is shared without customer knowledge of transactions.

**Do you believe Xcel Energy should share your monthly energy usage data with 3<sup>rd</sup> parties if they ask for it without your knowledge and consent?**

|                                     | Residential | Business |
|-------------------------------------|-------------|----------|
| <b>Yes, in some cases</b>           | 23.68%      | 27.15%   |
| <b>No, never without my consent</b> | 66.24%      | 60.93%   |
| <b>Don't know</b>                   | 10.08%      | 11.92%   |

While they may not know what we do with their data, customers certainly have opinions about what we should do with it. Close to 90% in both customer classes expressed opinions. Most believe the utility should always obtain consent. We note that, in light of these results, we are assessing ways to further enhance our customers' awareness of our Privacy Policy and related practices.

**What is your level of concern with third parties having access to your monthly energy usage data without your knowledge and consent?**

|                             | <b>Residential</b> | <b>Business</b> |
|-----------------------------|--------------------|-----------------|
| <b>Not At All Concerned</b> | 9.44%              | 15.23%          |
| <b>Mildly Unconcerned</b>   | 15.28%             | 24.50%          |
| <b>Slightly Concerned</b>   | 36.48%             | 32.45%          |
| <b>Extremely Concerned</b>  | 38.80%             | 27.81%          |

Customers are clearly divided on this issue, but in ranked order, customers are more concerned than not with the idea of third parties having access to individual monthly usage data. Business customers in general are more comfortable releasing data than residential customers.

**How does this change based on more frequent reading interval (15 minutes, relative to monthly)?**

|                             | <b>Residential</b> | <b>Business</b> |
|-----------------------------|--------------------|-----------------|
| <b>Not At All Concerned</b> | 23.60%             | 39.74%          |
| <b>Mildly Unconcerned</b>   | 17.20%             | 20.53%          |
| <b>Slightly Concerned</b>   | 30.24%             | 21.19%          |
| <b>Extremely Concerned</b>  | 28.96%             | 18.54%          |

Interestingly, customers are overwhelming less concerned when data at finer time intervals is released, which is counter-intuitive and contradictory to their level of concern with less granular data. This may indicate that customers did not understand that a more frequent reading interval would provide third parties greater insights into their usage.

**How does this change based on longer energy reading interval (annually, relative to monthly)?**

|                             | <b>Residential</b> | <b>Business</b> |
|-----------------------------|--------------------|-----------------|
| <b>Not At All Concerned</b> | 26.72%             | 35.76%          |
| <b>Mildly Unconcerned</b>   | 29.28%             | 25.17%          |
| <b>Slightly Concerned</b>   | 27.28%             | 26.49%          |
| <b>Extremely Concerned</b>  | 16.72%             | 12.58%          |

In this case, both customer groups are more *unconcerned* than concerned with annual data intervals. 56% of residential customers, and 62% of business customers are unconcerned. This still leaves a large number of customers concerned, however.

**Should Xcel Energy obtain your consent before sharing your monthly energy usage data with the following types of third parties?**

|  | Residential | Business |
|--|-------------|----------|
| Local Government administering environmental program | 59.92%      | 52.98%   |
| Landlord or Property Manager                         | 63.52%      | 50.99%   |
| Marketing Company                                    | 84.80%      | 82.12%   |
| Company that sells products or services              | 86.32%      | 83.44%   |
| Data Aggregator                                      | 61.04%      | 58.28%   |
| Other  | 15.92%      | 11.92%   |

While the majority of customers in both classes believe that Xcel Energy should obtain consent in all cases, they are more concerned with Marketing Companies and Companies intending to sell products or services than local governments or property managers. Business customers are significantly less concerned about sharing with property managers than residential customers are with giving access to landlords.

**Scenario: You lease space in a multi-tenant building, and your building owner is interested in assessing the energy performance of their building. In order to do this, they need Xcel Energy to provide the monthly energy usage of each tenant. What is your level of concern with the building owner having access to this energy usage data without your knowledge and consent?**

|                      | Residential | Business |
|----------------------|-------------|----------|
| Not At All Concerned | 30.56%      | 49.67%   |
| Mildly Unconcerned   | 21.60%      | 21.85%   |
| Slightly Concerned   | 27.68%      | 21.19%   |
| Extremely Concerned  | 20.16%      | 7.28%    |

Digging into the multi-tenant building cases specifically, it is again evident that business customers are less concerned about sharing data with property managers. Almost a majority of customers indicated they were not at all concerned with property managers having access, compared with less than 30% who showed concern at some level. Nearly half of residential customers (48%) are not comfortable with sharing data with landlords.

## **Third Party Access to Aggregated Usage Data**

**How does your concern change with aggregation of your 15 minute, daily, or monthly energy reading with other customers' energy readings?**

|                             | <b>Residential</b> | <b>Business</b> |
|-----------------------------|--------------------|-----------------|
| <b>Not At All Concerned</b> | 25.44%             | 33.11%          |
| <b>Mildly Unconcerned</b>   | 25.44%             | 33.77%          |
| <b>Slightly Concerned</b>   | 28.56%             | 19.87%          |
| <b>Extremely Concerned</b>  | 20.56%             | 13.25%          |

Concern from business customer's declines significantly, while residential customers remain fairly evenly split between concerned and unconcerned. This reflects a lack of understanding from the customer perspective around the ability of aggregation to protect against re-identification, which supports the notion that further study should be explored.

**Scenario: Your local community is interested in tracking the energy consumption of local businesses from year to year. In order to do this, they request that Xcel Energy adds together the individual annual energy usage for every building and report out one number for the entire community. What is your level of concern with the community having access to this energy usage data without your knowledge and consent?**

|                             | <b>Residential</b> | <b>Business</b> |
|-----------------------------|--------------------|-----------------|
| <b>Not At All Concerned</b> | 34.96%             | 41.72%          |
| <b>Mildly Unconcerned</b>   | 25.92%             | 23.18%          |
| <b>Slightly Concerned</b>   | 23.84%             | 23.18%          |
| <b>Extremely Concerned</b>  | 15.28%             | 11.92%          |

When the question is re-phrased to the community scale, business customers remain unconcerned, and residential customers flip to largely unconcerned (approximately 60% unconcerned).