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Xcel Energy

Docket No.: E002/M-17-776

Response To: MN Public Utilities Information Request No. 6
Commission

Requestor: Hanna Terwilliger, Michelle Rosier, Tricia DeBleeckere

Date Received: December 21, 2017

Question:

Describe the Company's data management strategy with respect to the increased amount of information it will receive from FLISR, AMI, and other grid modernization efforts:

- a) What new platforms will be available to customers to access their usage information?
- b) How will information be made available to stakeholders and regulators?
- c) How will the Company report on its progress and realized savings from FLISR to the Commission?
- d) Describe examples of how the Company is considering grid modernization investments and third party aggregation and/or sharing of data with third parties. How do the investments proposed allow or enable this collaboration and what is the benefit to customers?
- e) Identify and address issues presented by the prospect of providing data access to third parties and/or customers; including privacy protection, cyber security and managing and recovering costs of providing such data. How would the grid modernization investments proposed address these issues?

Response:

- a) With AMI, we plan that customers will have access to an online portal where they can monitor their usage in 15 minute intervals, set usage targets, and more easily identify relevant ways to control their consumption. We are also planning additional options for customers to setup various alerts and other interactive tools. The online portal paired with interactive tools will assist customers in making decisions about their energy-related behavior and investments. In designing this customer experience, we are utilizing primary customer research, paired with human centered design practices . We will continue to solicit feedback from customers after implementation to ensure the experience is adding the level of intended value to customers – and for continuous improvement purposes. We will also be expanding

our “Green Button” functionality from our current “download my data” to also include “connect my data.”¹ The Green Button initiative is an industry-led effort that responds to a White House call-to-action to provide utility customers with easy and secure access to their energy usage information in a consumer-friendly and computer-friendly format.² We discuss this further in part d) below. We also discuss other ways in which we intend to leverage usage data for customers as part of our response to MPUC Information Request No. 5.

- b) We are open to sharing the insights we glean from our research and work with customers as we shape the programs and services we intend to rollout to our customers. We also expect to propose potential ways to measure the effectiveness of our efforts in conjunction with our AMI certification request, such as the change in online portal use compared to use of our current My Account portal and the numbers of customers taking advantage of the optional interactive tools. In terms of providing this information to regulators and stakeholders, we have requested to submit annual grid modernization reports for the foreseeable future. If the Commission approves our request, we could include this type of information with those annual reports. We are also open to including it with other existing annual reports, such as in our annual service quality reports under the Commission’s Rules each April 1st.
- c) Similar to our response to part b) above, we can provide information quantifying the estimated reliability impacts resulting from FLISR and our implementation progress in deploying FLISR on the system, as well as for future strategic AGIS initiatives, such as AMI. Examples of FLISR reporting could include estimated Customer Minutes Out (CMO) savings/SAIDI improvement, the estimated outage duration improvement for customers *not* remotely restored during a FLISR-eligible outage, and the frequency of remote operation of switches for non-outage work compared to what would have been done via traditional on-site switching. Because this information directly ties with metrics reported in our annual service quality reports, we believe including FLISR status and estimated impacts would be most useful to stakeholders if provided in those reports. We intended to include the information in our ongoing grid modernization reports, as part of an implementation status component of the report. However, we are open to stakeholder feedback on what would be most useful.
- d) The advanced grid investments we intend to make in the foreseeable future, including the request we expect to submit for AMI, will significantly increase the

¹ *Green Button Connect My Data* is a capability developed after *Download My Data* that allows utility customers to automate the secure transfer their own energy usage data to authorized third parties, based on affirmative (opt-in) customer consent and control.

² See <https://energy.gov/data/green-button>

amount of information we have about the operation of our system, and about our customers' energy usage.

Today, we provide secure tools for customers to access their data through our My Account online portal, which is available on xcelenergy.com and in our mobile app. We also provide customers numerous methods to authorize third parties to access their data through a consent process, by designating the third party as an authorized agent, and by providing a third party their data directly using our Green Button Download My Data tool in My Account. In addition, we provide [Community Energy Reports](#) on our website for approximately 200 cities and counties in the Xcel Energy footprint. We additionally provide building owners and managers whole building data through [Xcel Energy benchmarking portal](#), subject to certain conditions, which include a Non-Disclosure Agreement. Further, we provide aggregated Customer Energy Usage Data (CEUD) reports in response to specific requests from communities and other groups, and provide CEUD and program participation data to communities through our Partners in Energy program. And we have participated in the Department of Energy's Better Buildings Initiative Data Accelerator project along with the City of Minneapolis, which explored and demonstrated practical, effective data aggregation practices to facilitate whole building benchmarking. Our participation in this partnership resulted in our development of our present online building benchmarking portal.

As discussed in response to part (a) of this request, we are in the process of expanding our "Green Button" functionality to include Green Button Connect My Data. This will allow customers to directly share their energy usage data with a third-party automatically – and without the need for the third-party to actively download the data as an authorized agent of the customer – or submit a consent form from the customer to the Company in order to receive the data. This will simplify the process for third-parties to receive energy usage data while allowing our customers to remain in control of their data. We believe that issues of privacy and confidentiality are important to our customers, and we take our responsibility to protect our customers' data very seriously. We have developed policies and practices for measured release of customer data, including CEUD that we believe balance our customers' interests with third party interest in expanded access to further public policy objectives.

In terms of system data, we have discussed potential improvements we will be able to make in our planning processes in the Commission's inquiry regarding distribution planning in Docket No. E999/CI-15-556. As discussed in our June 21, 2017 response to the Commission's Notice, we expect ADMS and other functionalities it will enable will provide improved awareness of distributed energy resources (DER) influences on the grid, and accurately model all elements in the

network (including DER), for better forecasting and more insight for system planning. Distribution Planning will need additional tools that would interface with the advanced grid initiatives to allow our planning and forecasting to evolve as our system incorporates these new technologies and added functionality. However, we would expect that the additional grid insights and planning improvements from our grid modernization efforts will translate to improved information for third parties, such as in terms of where to potentially connect to the system, as well streamlining our review of interconnection applications.

We may also make investments in DER such as batteries that would involve a partnership with a third-party. As discussed in our Grid Modernization Report, our Public Service Company of Colorado affiliate is currently experimenting with Panasonic grid-scale and demand-side battery deployments to determine the value these resources can provide. Similarly, we have worked with third-parties through our Conservation Improvement Programs (CIP) to deliver energy efficiency solutions to customers while protecting customer's privacy. We expect that these types of collaborations are likely to continue in the future, and may be expanded as new technologies and product designs are enabled by advanced metering.

While the technologies we are proposing to implement will result in more robust data about our system and our customers, we do not intend to change the *way in which* we and our customers collaborate with third parties. We intend to continue to facilitate third party and collaborative efforts within the context of our present practices and protocols for system data disclosure and customer data disclosure. In general, we consider grid security and customer privacy interests before we disclose system data – and for customer data, we generally place the control of how it is disclosed to third parties in the hands of our customers through use of informed and affirmative consent. Green Button Connect My Data will add to an already robust toolbox for customers to share their data with third parties, while also allowing them to maintain control over how, when, and to whom it is disclosed. We discuss the potential issues associated with changing this construct for third party data access in our response to part e) below.

- e) We respond to this question addressing first third party access to customer data and then distribution system data. We also clarify that we define “third party” as entities or individuals that are not the customer, and that are not the Company’s Contracted Agent. Contracted Agents provide regulated utility service on behalf of the Company, and are under contract with the Company.

Customer Data

As noted in part d) above, the Commission has examined customer and third party access to customer data in its generic inquiry into the privacy practices of rate-

regulated energy utilities in Docket No. E,G999/CI-12-1344. Before splitting the procedural process into “tracks” (1- Identity theft fraud; 2 – Personally Identifiable Information; and 3 – CEUD), the Commission explored the issue more generally, including in relation to potential “smart grid” investments. In that proceeding, we said that we believe it will be important for the Commission to balance the benefits of data access with customers’ rights of privacy, independent of “smart grid” or any specific equipment that may enable greater data capabilities and information, in determining the appropriate access requirements for CEUD.³

We believe that customers benefit from access to their CEUD, and can use such access to better understand their consumption patterns and make informed decisions regarding energy use. Additionally, we recognize that third-party access to CEUD can also play an important role in advancing conservation or other public policy objectives. For example, third party providers in the energy efficiency services market are another resource for customers to gain education, participate in energy audits and purchase energy monitoring devices. We believe that third parties can play an important role, and should have access to individual CEUD – however, contingent upon obtaining informed customer consent, and with the removal of potential ongoing liability for the utility once it affirms the customer’s consent to release the data.

Within the CEUD track of the proceeding, the Commission employed comments and replies, and a Workgroup facilitated by an Administrative Law Judge. The Workgroup was comprised of regulatory agency representatives, utility representatives, and other stakeholders, including a local unit of government, third party service providers, clean energy organizations, and a representative of a group of large industrial customers. The Workgroup’s initial objective was to make recommendations on the appropriate use and limitations on use of CEUD, balancing customer privacy and the state’s energy goals.⁴ Xcel Energy participated in the proceeding overall, and was also an active participant in the Workgroup.

While the Workgroup examined many aspects of third party access to CEUD for purposes of furthering state energy goals, the only areas in which it came to consensus was that: (1) release of individually-identifiable information should require customer consent; and (2) utilities should not release data at a level more granular than monthly. The Workgroups efforts are captured in two reports submitted by the ALJ on September 17, 2014 (Appendix K amended October 20, 2014) and August 24, 2016.

³ See Docket No. E,G999/CI-12-1344, PRIVACY POLICIES OF RATE-REGULATED ENERGY UTILITIES, Xcel Energy Reply Comments, February 20, 2013.

⁴ After the work on the initial objective was submitted to the Commission, it later gave the Workgroup a second objective to examine the Department of Energy’s Voluntary Code of Conduct (n/k/a Dataguard), which resulted in a second Workgroup report to the Commission.

In comments submitted directly into the record of that proceeding – and others submitted to the Workgroup, we outlined issues that we believe are important to the Commission’s consideration of third party access and use. We believe these issues continue to be relevant. We summarize some of these below, and encourage review of the full case record as it relates to the issue of utility disclosure customer data to third parties.

- **Utility release of CEUD to third-parties unrelated to the provision of regulated utility service presents a risk to customer privacy and confidentiality, because the Commission’s jurisdiction does not extend to these third party entities**
 - The Commission has broad authority to impose and enforce data protection and release requirements and standards on utilities – and can also extend those requirements to utility contractors that aid in providing regulated utility service by imposing requirements on utilities related to conditions of access. However, there is no alternative legal framework in Minnesota like there may be in other states that would impose or enforce privacy, confidentiality or security requirements on CEUD.
- **It would be important for the Commission to provide clear and objective guidance specifying its criteria for utilities to release CEUD and/or customer program participation data (CPPD) to parties outside of the provision of regulated utility service,**
 - Broad guidance would require utilities to make subjective decisions that are likely to differ across utilities, and that may conflict with the Commission’s intent. Therefore, if the Commission wishes to limit or promote the release of CEUD and/or CPPD to certain entities or for specific purposes, it must provide specific criteria for the utilities to apply when evaluating a data request. Otherwise, virtually anyone could request any data by generally stating its correlation to a broad state energy goal, and utilities may have no recourse but to provide the data.
- **Expanding utility customer data access must be balanced with commensurate levels of accountability regarding its use and maintenance, including:**
 - Limitations to the purpose identified in the request,
 - Conditioned on demonstrating its fulfillment of a public purpose such as meeting state energy goals,
 - Agreement to undertake measures to reasonable protect the security and retention/destruction of the data and/or incident response in the case privacy or confidentiality is compromised while the data is within the requestor’s control, and
 - Tracking and reporting progress toward the identified state energy goals(s), and the costs associated with achieving that progress or

achievement (including any utility costs to fulfill the data request(s)).

- **The concerns and risks associated with expanded access to customer information may vary by type of customer, and therefore, actions to appropriately maintain privacy and confidentiality may also need to vary,**
 - Our experience from interacting with customers is that the scope of their privacy and confidentiality interests will vary from one to another. Some customers are very concerned about who may have access to their unique data, and therefore want control over that access; others are less concerned. For this reason, we are transparent with our customers regarding data access, and have put in place policies and processes for obtaining customer consent prior to release of customer-specific data. This gives customers the autonomy to select the level of privacy or confidentiality they desire for their unique data.
- **There may be substantial benefits associated with utilizing existing legal and regulatory frameworks to facilitate third party collaboration that involves customer data, and**
 - The Commission could direct parties seeking utility customer data to further specific state energy goals to engage in a dialogue with utilities to develop new offerings under a new or existing regulated service offering. Existing mechanisms such as the Alternate Conservation Improvement Program Project Option enabled by Minn. Stat. § 216B.241, and as defined in Minn. R. 7690.1430 allow interested persons to submit alternative energy efficient projects for inclusion in a utility’s conservation improvement program. This would lend the rigor of existing regulatory frameworks to ensure that the proposal would indeed further the stated goal(s), and additionally address the need for accountability to track and demonstrate results and associated costs.

We also summarized additional protection, liability, and cost recovery considerations, including:

- *Customer Control.* We believe customers should be able to control how their data is used outside the provision of regulated utility service. There should therefore 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. In addition, the Commission’s January 19, 2017 Order in Docket No. E,G999/CI-12-1344 requires that utilities “shall not disclose CEUD without the customer’s consent unless the utility has adequately protected the anonymity of the CEUD.” The Order also required

utilities to submit their aggregation and release policies with the Commission within 30 days of the Order.⁵

- *Customer Notice.* We believe 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, including governmental entities, contracted agents of the utilities, and third parties. Therefore, any changes in the way utilities gather, use, maintain or release customer data should result in changes to the required customer Notices. This also raises the question as to whether third parties would need to provide a Notice to utility customers.
- *Limits on Utility Liability.* In the event a utility or its contracted agent fails to properly protect customer data, we acknowledge affected customers may seek to hold the utility and/or its Agent accountable for associated damages. However, the responsibility of the utility for release of customer data should end at the point data is properly released – including whether that is as required by law, in response to a customer request involving informed consent, or as otherwise required or permitted by the Commission.
- *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/CPD 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.

There is a robust record of comments by Xcel Energy, other utilities, and a number of stakeholders in the docket that thoughtfully considered these and other issues associated with the customer data utilities collect, use, and maintain in order to provide regulated utility service. Additionally, the Commission maintains the Workgroup materials on their website at: <https://mn.gov/puc/utilities/customer-data/>

Distribution System Data

The issue of access to distribution system data has not been the subject of as much scrutiny and evaluation in Minnesota, nor nationally. In our November 1, 2017 Hosting Capacity report in Docket No. E002/M-17-777, we discussed the issue of third party access to distribution system data, as for the first time, we provided an interactive graphic/visual presentation of our study results, which raised issues of customer privacy and security, and system security. In that filing, we explained that we had removed certain feeders from the heat map in an effort to protect what we

⁵ See Xcel Energy compliance filing, Docket E,G999/CI-12-1344 (February 10, 2017).

believe is private or confidential customer data, and/or critical distribution infrastructure information.

We also referred to our September 21, 2017 Reply Comments in the Commission's grid modernization docket (Docket No. E999/CI-15-556), where we said that the issue of access and protection of distribution grid information is largely uncharted territory. We pointed to state level examination of customer privacy and confidentiality in terms of CEUD and customer Personally Identifiable Information (PII), which we also discussed above. We also discussed that at a national level, we have looked to guidance from the National Institute of Standards and Technology (NIST), North American Electric Reliability Corporation (NERC), and Federal Energy Regulatory Commission (FERC). We found that existing regulatory, legal, and industry frameworks provide little to no guidance with respect to data security protections and customer privacy and confidentiality considerations as it relates to distribution grid data.

We explained that therefore have considered these sources as advisory and developed criteria to apply to the visual hosting capacity results that would protect what we believe is sensitive and therefore non-public grid and customer information. We did this while also balancing public policy considerations that some may believe should result in full disclosure. In terms of customer privacy and confidentiality, we looked to the Commission's decisions on customer PII and CEUD. While grid and customer connection details are not a directly implicated in that proceeding, the Commission directed utilities to look to NIST principles for guidance with regard to collection and protection of customer PII – and required utilities to refrain from disclosing CEUD without the customer's consent unless the utility has adequately protected the customer's anonymity. In looking to NIST and other national standards that are generally applicable to the transmission grid, we found that they are broad and largely rely on utilities' judgement to apply them to their infrastructure.

From these sources, we applied our judgement within the broad guidance to develop criteria that we believe balances public policy objectives with the public interest, in terms of energy security – and our customers' interests, in terms of their privacy and confidentiality.

Finally, we explained that the Minnesota Government Data Practices Act (Minn. Stat. § 13.01 et seq.) addressing nonpublic data (Minn. Stat. § 13.02, subd. 9), private data on individuals (Minn. Stat. § 13.02, subd. 12), security information (Minn. Stat. § 13.37, subd. 1(a)), and trade secret information (Minn. Stat. § 13.37, subd. 1(b)), is not directly applicable. The Minnesota Government Data Practices Act only addresses information held by state government. However, the Hosting Capacity map we developed was publicly filed, and so there is no Trade Secret or nonpublic version of

this filed map on file with state government. Instead, in putting this map together, we explained that we were sensitive to what could be considered to be nonpublic under this Act, and provided the heat map to reflect these concerns.

We believe the criteria we developed and applied to our heat map results are based on sound principles, and reasonably balance grid security, customer privacy, confidentiality, and energy security, and public policy objectives. The Commission has a couple of open proceedings in which access to distribution grid information is implicated. We recognize that we are the first utility in Minnesota to encounter these privacy questions, at least as they relate to hosting capacity. We look forward to further dialogue on this important issue, and Commission direction on the approach we have taken to-date in the proceedings that are examining this and related issues.

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