

December 7, 2017

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 280
St. Paul, Minnesota 55101-2147

RE: **Response Comments of the Minnesota Department of Commerce, Division of Energy Resources**
Docket No. E002/M-16-281; Docket No. E002/M-17-249

Dear Mr. Wolf:

Attached are the Response Comments of the Minnesota Department of Commerce, Division of Energy Resources (Department) in the following matter:

2016 and 2017 *Annual Electric Service Quality Reports* (Reports) submitted by Northern States Power Company, d/b/a Xcel Energy (Xcel or the Company).

The 2016 Report was filed on April 1, 2016 by:

Bria Shea
Regulatory Manager
Xcel Energy
414 Nicollet Mall
Minneapolis, Minnesota 55401

The 2017 Report was filed on March 31, 2017 by:

Gail Baranko
Manager, Regulatory Project Management
Xcel Energy
414 Nicollet Mall
Minneapolis, Minnesota 55401

The Department recommends that the Minnesota Public Utilities Commission (Commission) **accept Northern States Power Company's Reports and set reliability goals for 2017 as proposed by the Company.**

The Department is available to answer any questions that the Commission may have.

Sincerely,

/s/ ANGELA BYRNE
Public Utilities Financial Analyst

AB/lt
Attachment



Before the Minnesota Public Utilities Commission

Response Comments of the Minnesota Department of Commerce Division of Energy Resources

Docket Nos. E002/M-16-281 & E002/M-17-249

I. INTRODUCTION

The Minnesota Department of Commerce (Department) respectfully submits these Response Comments to respond to the Reply Comments filed by Northern States Power Company d/b/a Xcel Energy (Xcel or the Company) on September 29, 2017.

In its initial Comments, the Department recommended that:

- the Commission accept Xcel's filing in fulfillment of the requirements of Minnesota Rules, Chapter 7826, and the Commission's October 23, 2015 Order in Docket No. E002/M-15-324 pending submission in Reply Comments of the following additional information:
 1. a narrative updating information regarding its Customer Average Interruption Duration Index (CAIDI) improvement team, and other initiatives the Company has undertaken, or plans to undertake, to improve its CAIDI performance. Information regarding, but not limited to, available feedback on new training initiatives, percentage completion of equipment and/or technology installation, and estimated or general timelines for completion of any targeted projects or trainings, et cetera would help guide the Department's expectations in future Service Quality filings;
 2. a discussion regarding the general timeline of installing remote reporting capabilities in its remaining Minnesota substations;
 3. further discussion regarding the progress of undergrounding of the above-identified, Metro East feeder line, or whether other plans have been developed;
 4. a discussion regarding the increase in Emergency Medical Accounts, specifically,
 - a. any insight it has as to the primary driver(s) of this increase;
 - b. whether this seems to be a new normal or merely a temporary increase; and

- c. whether any operation and/or service challenges have been experienced or addressed as a result of more than doubling the number of emergency medical status accounts; and
5. a description of the data it is gathering related to improving estimated restoration times. It would also be useful for Xcel to provide a summary of that data in future annual service quality reports.
- the Company propose specific Customers Experiencing Multiple Interruption (CEMI) and Customers Experiencing Lengthy Interruptions (CELI) metrics in its next annual service quality report; and
 - the Department withheld its recommendations on setting 2017 reliability goals, pending evaluation of further information provided by Xcel in Reply Comments.

On September 29, 2017, Xcel submitted its Reply Comments addressing the issues listed above.

II. SUMMARY OF XCEL'S REPLY COMMENTS AND DEPARTMENT ANALYSIS

The Department reviewed Xcel's Reply Comments. Summaries of information provided by the Company, along with the Department's corresponding analysis, are provided below.

A. RELIABILITY

1. CAIDI Performance

Xcel provided an extensive discussion around its CAIDI performance. Specifically, the Company stated,¹

In Reply to our 2013 and 2014 service quality reports, we discussed a number of work practice initiatives we had underway to improve our CAIDI performance. As the Department summarized in Comments, these efforts included a CAIDI improvement team, who had identified a number of opportunities to improve our CAIDI performance. We have largely internalized all of these improvements, which we have noted previously are expected to only maintain performance, rather than result in concrete improvement.

¹ Reply Comments, pages 2-3.

One notable update however, is that we have affected staffing changes in our Metro West service center. We implemented two staffing-related initiatives in late 2015 and early 2016, as we continue to work on improvements to safely and efficiently respond to electrical outages:

- We removed phone shifts for our First Responders who had answered escalated outage calls – putting four more First Responders in the field. These calls are now being successfully handled by our Call Center; and
- We changed the reporting structure of four First Responders in our Metro West area. Previously, all Metro West First Responders reported to our Chestnut facility in Minneapolis. Now, two First Responders report in the Southern metro (Edina) and two First Responders to the Northern metro (Maple Grove).

Distributing the reporting locations for our Metro West First Responders saves significant drive time on customer outages, particularly during morning and afternoon rush hours – and, we believe, has positively affected customer restoration times since implementation. We note that we already have a similar distributed staffing structure in our Metro East area, so no reporting changes were necessary in this service area.

As we discuss in part 3 below, CAIDI on its own, is not a good indicator of reliability – nor is it a good indicator of the customer reliability experience. We continue to monitor CAIDI internally as part of our overall reliability management efforts, which considers CAIDI results in conjunction with other reliability indicators and information. This broad examination of reliability allows us to monitor the effectiveness of our work practices and other initiatives to identify changes that will improve reliability for customers. These changes include the Metro West staffing change we noted above, and the initiatives we identified in previous service quality proceedings. We will continue to emphasize proper time recording, restore before repair, maintaining appropriate staffing levels, and other initiatives that we have focused on through our CAIDI improvement team. However, our primary reliability focus continues to be on SAIDI and SAIFI as we have previously discussed. SAIDI and SAIFI are the best indicators of

overall reliability, and are the industry standard measure of utility reliability.

The Department appreciates the thorough discussion provided by Xcel in its Reply Comments. In particular, the Company's illustrative discussion of its Fault Location Isolation and Service Restoration (FLISR) program was helpful in showing how service quality can increase while CAIDI decreases:²

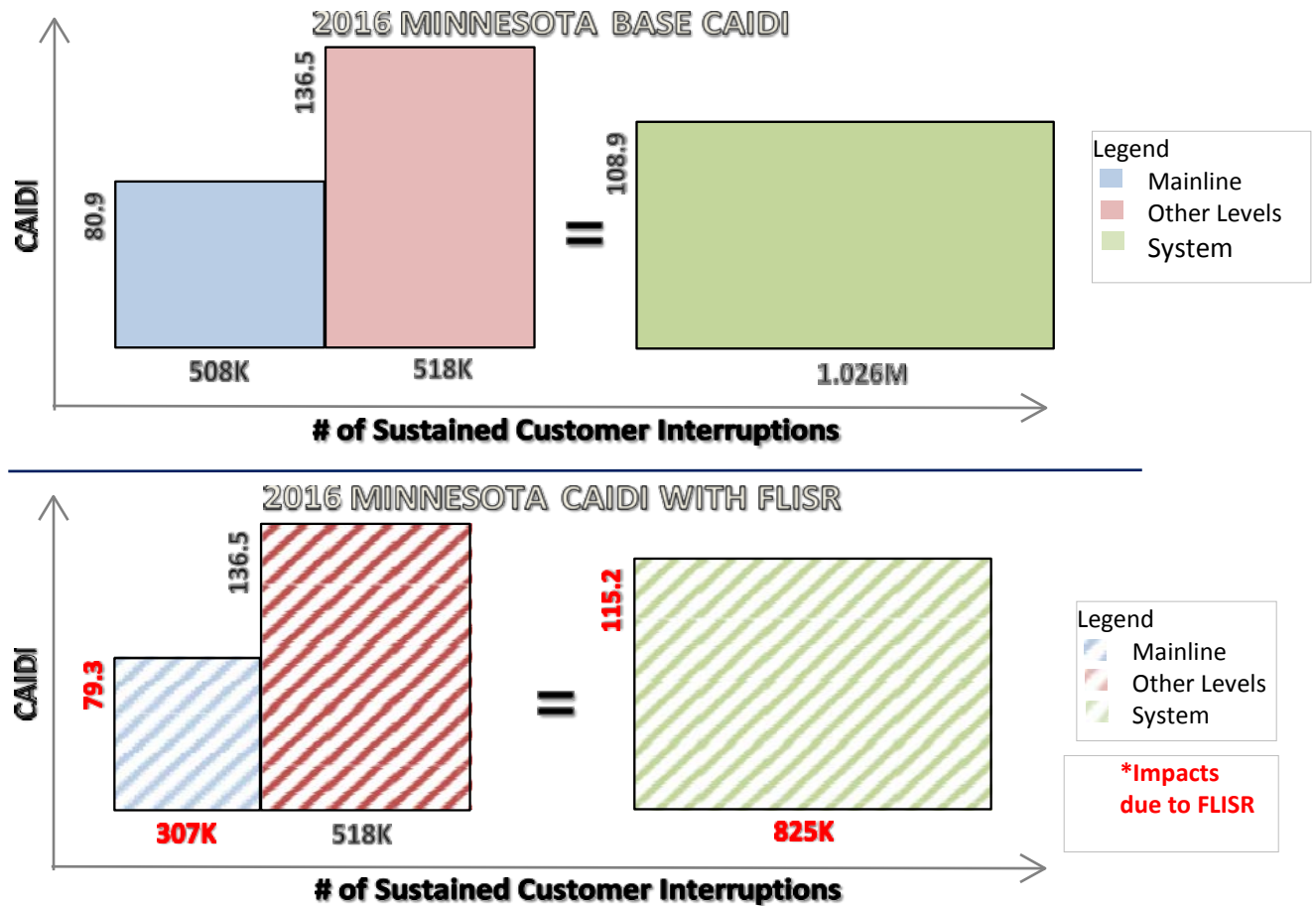
We provide an example of these effects using our 2016 performance year (the exact same outages) and assuming FLISR is fully installed on approximately 30 percent of our worst performing Feeders (based on SAIDI) as they currently exist. With these assumptions, we estimate that our 2016 Minnesota annual service quality report metrics would change as follows:

- SAIFI would improve from 0.82 to 0.66
- SAIDI would improve from 89 to 76
- CAIDI would decline from 109 to 115

We portray the CAIDI impacts visually in Figure 1 below:

² Reply Comments, pages 5-6.

Figure 1: Illustrative FLISR Deployment Impact on CAIDI



Xcel continued:³

...as shown in the bottom of FLISR scenario, our customers' reliability experience is actually improved as evidenced by:

- The CAIDI improvement for customers at the Mainline/Feeder level;
- Over 200,000 fewer customers experiencing a sustained outage; and
- No change in CAIDI performance at the "other" levels.

³ *Id.*, page 6.

That said, the Department does not share the Xcel’s view “that CAIDI is a poor indicator of our customers’ reliability experience.” While certain changes in performance may increase CAIDI without degrading performance, a declining CAIDI metric can still indicate a real increase in the length of customer outages. Therefore, the Department would like to continue discussions with Xcel to develop additional reporting metrics (CEMI and CELI, for example) that may enhance the Commission’s ability to assess service reliability. There will be ample opportunity to do so both in these annual service quality dockets, as well as in Docket No. E002/CI-17-401, which the Commission opened to investigate, identify and develop performance metrics and potential incentives.

As a result, the Department recommends that the Commission set Xcel’s reliability standards for 2017 as proposed by the Company:

		Proposed 2016 Goals	Proposed 2017 Goals
Metro East	SAIDI	86.13	89.13
	SAIFI	0.86	0.87
	CAIDI	100.01	102.42
Metro West	SAIDI	92.35	92.06
	SAIFI	0.89	0.89
	CAIDI	103.33	103.98
Northwest	SAIDI	92.66	95.88
	SAIFI	0.82	0.81
	CAIDI	113.15	118.45
Southeast	SAIDI	94.14	99.16
	SAIFI	0.72	0.74
	CAIDI	130.78	134.40

2. Major Service Interruptions

In light of an increase in unreported major interruptions to the Commission’s Consumer Affairs Office (CAO), the Department requested that Xcel provide a discussion regarding the general timeline of installing remote reporting capabilities in its remaining Minnesota substations. In its Reply Comments, the Company stated:⁴

Specifically, SCADA-enabled switches and line reclosers can automatically detect the actual time when a feeder goes out (and

⁴ Reply Comments, page 9.

eventually when its back online), which improves the speed and quality of the data available to share with the CAO. However, we note there is still a human element in preparing and forwarding the alerts to the CAO therefore, on days with high volume of outages, it is possible that alerts are not prepared or sent for all qualifying outage events. Overall, this automation of outage data to our control center helps improve our ability to report outage information more accurately to the CAO during major outage events.

As of December 2016 we have SCADA installed in 132 distribution substations in Minnesota, with another 55 substations identified for SCADA installation. Given the importance of this technology to our system and the resulting benefits to our customers (e.g. significantly increases the speed of power restoration following an outage) we have outlined a capital investment plan to complete five SCADA substation installations during 2017, and an additional 25 to be completed over the next five years. More SCADA installations will be completed in the future beyond the current 5-year budget plan.

The Department appreciates this additional information and found it helpful. All things held equal, the continual improvement in data collection, coupled with additional SCADA-enabled substations going forward, should largely stabilize the number of unreported incidents, if not reduce them. Meanwhile, the Department appreciates Xcel's efforts to explain annual variances, as it did in its 2016 Report regarding the July 2015 storm.

3. Worst Performing Feeder

In the final request for additional information regarding reliability, the Department requested that Xcel provide further discussion regarding the progress of undergrounding a previously-identified Metro East feeder line, or whether other plans had been developed.

In its Reply Comments, Xcel stated:⁵

In 2015, the Company considered burying a few spans of the conductor behind the recloser of the referenced Metro East feeder due to repeat outages resulting from tree contact. Due to the

⁵ *Id.*, pages 9-10.

feeder's location, underground installation would be extremely difficult in this area due to several contributing factors including its hilltop location in a very rural and rustic area, which is surrounded by an extremely rough terrain. This is also a sparsely populated area without a tie to another available source.

Because of these issues, Xcel Energy determined that upgrading more overhead conductors was the best solution for this problematic feeder given that the replacement conductors are bigger and stronger than the ones previously installed. As a result, the conductor where most of the tree contact occurred was partially upgraded in September 2016 and portions of the line were relocated to the opposite side of the road during fourth quarter of 2016, which has reduced the number of outages behind this recloser considerably. ... For example, in 2015 we had five outages behind this recloser and following the upgrade, only one outage in 2016, and to date two outages in 2017 both of which were at the feeder level, the improvement work behind the recloser would not have had an impact on these outages. ... In addition, this feeder is also scheduled for its 5-year tree trimming cycle in first quarter of 2018. ...

We note the work completed on this feeder occurred later in 2016 and thus any reliability improvements were not captured in the data used to determine the poor performing feeders for our 2016 annual report. While we have seen improvements in 2017 behind the recloser where the above improvements occurred, there have been several large outages on this feeder in 2017 due to substation events caused by animal contact, and events on the feeder that were caused by tree contact. Tree trimming should address the latter. As mentioned previously, the location of this feeder creates challenges to improvement however, we will continue to monitor and determine if other actions can improve its reliability.

Again, the Department appreciates the additional information provided by Xcel. The Department will evaluate the worst-performing feeders in the Company's 2017 Annual Report filed in April of 2018 with this information in mind. However, if this identified feeder is again listed as a worst performer for 2017, the Department would appreciate Xcel's assessment in its initial Annual Report on whether additional actions would improve reliability for this feeder.

B. EMERGENCY MEDICAL ACCOUNTS

Regarding the marked increase in emergency medical accounts, the Department requested that Xcel provide any insight as to the drivers of the increase, whether this appears to be a new normal or a temporary increase, and whether operation and/or service challenges have been experienced or addressed as a result of the increase in medical status accounts.

Xcel discussed in its Reply Comments that it believes that there is an overall increase in customers seeking protection, due to outreach efforts by the Office of the Attorney General, Legal Aid, and the Company's Personal Account Representatives. Xcel also identified an aging customer base as a driver associated with the increase in participation. Based on that demographic shift, Xcel expects current participation levels to be the new normal or even increase.

Regarding operational challenges, the Company stated:⁶

Operationally, the level of arrears currently associated with medical accounts exceeds \$6 million in Minnesota and we are taking steps to work with our customers and address this issue. This includes the Company's commitment in its recent electric rate case to expand the affordability program that resulted in our recently submitted medical affordability petition filed with the Minnesota Commission in August 2017.

Our request proposes a customer bill payment assistance program exclusively for low-income customers with chronic or severe medical conditions. It includes a \$3 million increase in funding annually to address medical and life support arrears that will be designed and managed consistent with our current PowerON program.

The Department thanks Xcel for the additional discussion and concludes that, in light of this information, the increase in emergency medical accounts appears reasonable.

C. ESTIMATED RESTORATION TIMES

In its Comments, the Department requested that Xcel provide a description of the data it is

⁶ Reply Comments, pages 11-12.

gathering related to improving estimated restoration times, and for the Company to provide a summary of that data in future annual service quality reports.

In its Reply Comments, Xcel stated:⁷

On a monthly basis, the Company pulls year-to-date data from its Network Management System (NMS) that itemizes each outage along with associated outage data such as: (i) time of outage; (ii) number of customers impacted, interrupting device; (iii) level of outage; (iv) estimated restoration time (ERT) pre-determined by the Company; and (v) actual restoration time.

The information is used to analyze the accuracy of our estimated restoration times when compared to the actual restoration time. The current draft metric measures actual restoration times which occurred within 90 minutes prior to the published ERT up to 0 minutes after the published ERT. ... We expect the design of this metric could evolve as we continue to monitor and analyze the data compared to customer expectations.

The Company also discussed its efforts to improve estimated outage restoration times provided to customers. Xcel stated that in early 2016 it implemented adjustments to the model algorithm built into its NMS system that generates ERTs and have seen incremental improvements in ERT accuracy during 2016 and 2017 year-to-date. Additionally, the Company is working with its Control Center to reduce the number of ERTs that expire by generating an updated ERT once it is known that the current ERT will not be met. Finally, Xcel stated that it agrees to provide a summary ERT data on a going forward basis.

Again, the Department appreciates this additional discussion provided by Xcel. Based on the Company's own research, improving ERTs and communication with customers about those ERTs is a top priority. The Department looks forward to working with Xcel on evaluating future data to both improve ERTs and possibly develop a metric to measure that progress.

D. CLARIFICATION REGARDING 2016 GOALS

One issue the Department failed to clarify in its original Comments was, going forward, whether Xcel's performance for 2016 should be compared to 2015 approved goals or 2016 Company-proposed goals for the previous annual filing. In its Comments, the Department used Xcel's

⁷ Reply Comments, pages 12-13.

proposed 2016 goals for comparison to 2016 performance. The Department requests that the Commission indicate its preference as to which measures to use. If the Commission ultimately prefers to compare 2016 performance to 2015 approved goals, the Department will amend its historical performance comparison charts going forward.

III. CONCLUSIONS AND RECOMMENDATIONS

The Department continues to recommend that the Commission accept Xcel's filing in fulfillment of the requirements of Minnesota Rules, Chapter 7826, and the Commission's October 23, 2015 Order in Docket No. E002/M-15-324.

Additionally, the Department recommends that the Commission set Xcel's reliability standards for 2017 as proposed by the Company:

Work Center		Recommended 2017 Goals
Metro East	SAIDI	89.13
	SAIFI	0.87
	CAIDI	102.42
Metro West	SAIDI	92.06
	SAIFI	0.89
	CAIDI	103.98
Northwest	SAIDI	95.88
	SAIFI	0.81
	CAIDI	118.45
Southeast	SAIDI	99.16
	SAIFI	0.74
	CAIDI	134.40

Finally, the Department continues to recommend that the Company propose specific CEMI and CELI metrics in its next annual service quality report.

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CERTIFICATE OF SERVICE

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

**Minnesota Department of Commerce
Response Comments**

Docket No. E002/M-16-281 and E002/M-17-249

Dated this 7th day of December 2017

/s/Sharon Ferguson

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