

## Staff Briefing Papers

Meeting Date    October 10, 2019

Agenda Item    8\*\*

Company            All Commission – Regulated Natural Gas and Electric  
Utilities

Docket No.        **E,G-999/CI-19-160**

**In the Matter of Minnesota Public Utilities Commission (Commission) Inquiry  
into the Impacts of Severe Weather in January and February 2019 on Utility  
Operations and Service**

Issues

1. What impact did the cold weather in January and February 2019 have on utility operations and service?
2. Were there lessons learned from this severe weather event that can be used to keep utility systems operating reliably and safely under extreme, challenging circumstances in the future?
3. Should the Commission approve one or more of the parties' recommendations that address the future reliability of utility operations and service?

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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

### Date

#### Initial Comments

Greater Minnesota Gas – Comments	March 25, 2019
Great Plains Natural Gas Co. – Comments	April 8, 2019
Dakota Electric Association – Comments	April 10, 2019
CenterPoint Energy Minnesota Gas – Comments	April 12, 2019
Minnesota Energy Resources Corporation – Comments	April 12, 2019
Otter Tail Power Company – Comments (Trade Secret)	April 12, 2019
Minnesota Power – Comments (Trade Secret)	April 12, 2019
Public Comment – SpeakUp – Lori Curtis, filed in e-dockets	April 15, 2019
Xcel Energy – Comments and Attachments (Trade Secret)	April 15, 2019
Xcel Energy – Comments – Errata	April 16, 2019
Xcel Energy – Update	May 13, 2019
Department of Commerce – Comments (Trade Secret Attachments)	May 20, 2019
Office of Attorney General – Comments	May 20, 2019
Public Comment – SpeakUp – Jennifer Martin, filed in e-dockets	May 22, 2019

#### Reply Comments

Otter Tail Power Company - Reply Comments	June 12, 2019
CenterPoint Energy – Reply Comments	June 28, 2019
Great Plains Natural Gas Co. – Amended Reply Comments	June 28, 2019
Xcel Energy – Reply Comments	June 28, 2019
Minnesota Energy Resources Corporation – Reply Comments (TS)	July 1, 2019
Greater Minnesota Gas – Reply Comments	July 3, 2019

#### Response Comments

Department of Commerce – Response Comments	August 9, 2019
Office of Attorney General – Response Comments	August 9, 2019
Minnesota Power – Comments and TS Attachments	August 9, 2019



**Relevant Documents**

**Date**

**Additional Reply Comments**

Xcel Energy – Reply Comments

August 19, 2019

CenterPoint Energy – Reply Comments

August 19, 2019

Minnesota Energy Resources Corporation – Additional Reply  
Comments

August 19, 2019

**Other**

CenterPoint Energy – Proposed Tariffs for Curtailment

September 12, 2019

**Additional Comments**

Department of Commerce – Additional Comments

September 27, 2019

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## **I. Statement of the Issues**

What impact did the cold weather in January and February 2019 have on utility operations and service?

Were there lessons learned from this severe weather event that can be used to keep utility systems operating reliably and safely under extreme, challenging circumstances in the future?

Should the Commission approve one or more of the parties' recommendations that address the future reliability of utility operations and service?

## **II. Introduction**

Beginning on January 28, 2019 and continuing through February 1, 2019, the state of Minnesota experienced an extreme weather event, leading to some of the coldest weather conditions since January and February 1996. While the natural gas and electric utilities generally performed well during this event, it caused isolated issues, such as the loss of natural gas service in Xcel's Princeton and Hugo areas. It also made apparent other issues such as the large percentage of interruptible natural gas customers who failed to fully comply with curtailment requests, and Xcel Gas's need to update its distribution planning models to reflect lower temperatures.

With respect to the electric utilities, an interstate gas pipeline equipment failure caused Xcel Energy to briefly reduce output at three electric generation plants. In addition, utilities took wind generation offline due to low temperatures, but did not always account for this outcome of expected low temperatures in their day-ahead generation forecasts.

The utilities provided information about their operations during the cold weather event and lessons learned. A number of parties have recommended changes to the natural gas utilities interruptible service tariffs, including, for example, increasing penalties for non-compliance with curtailment requests. The Department and OAG have recommended requiring the utilities to file various compliance reports.

The Commission will need to decide the steps it wants to take next, whether it should approve recommended tariff changes, and whether it should require the utilities to make various compliance filings.

## **III. Background**

The Commission opened this inquiry to gather information and gain a better understanding of the impact of severe weather in January and February 2019 on utility operations and service.

At the Commission's Planning Meeting of February 28, 2019 each of the gas utility Local Distribution Companies (LDCs), each of the Investor Owned electric utilities, and the Midcontinent Independent System Operator (MISO) provided presentations and responded to questions regarding their operations during the severe cold weather event that occurred

between January 28 and February 1, 2019. (Copies of most of the presentations are available in eDockets and a recording of the meeting is available on the Commission's website.)

On March 18, 2019, the Commission issued its Notice of Comment Period—Information From Utilities which requested information on several topics including what impact did the cold weather in January and February 2019 have on utility operations and service, lessons learned from this severe weather event and next steps. From March 26, 2019 through April 15, 2019, the utilities filed their comments.

On April 18, 2019 the Commission issued a second notice requesting comments on the utilities' filings and several specific issues and topics: the natural gas utilities plans for reinforcement projects and customer curtailments, the actual and forecasted status of the electric utilities generation and load management resources, and all of the utilities communication with the public during this cold weather event, lessons learned and next steps. On May 20, 2019, the Minnesota Department of Commerce, Division of Energy Resources (Department), and the Minnesota Office of the Attorney General – Residential Utilities and Antitrust Division (OAG) submitted comments and requested additional information. Between June 12, 2019 and July 3, 2019, Otter Tail Power, CenterPoint Energy, Great Plain Natural Gas Company, Xcel Energy, Minnesota Energy Resources Corporation and Greater Minnesota Gas submitted reply comments.

On July 9, 2019, the Commission issued a third notice requesting comment and replies on the additional information received and several more additional, specific issues: potential tariff changes related to natural gas curtailments, failures to curtail, and interruptible natural gas service; electric utility curtailments and MISO penalties, if any; Xcel Energy's planning for severe weather by its Electric and Gas Utilities; utility communication with interruptible customers regarding curtailments and with the general public during severe weather events; generation forecasting for wind resources in extreme temperatures. On August 9, 2019, the Department and the OAG submitted response comments and Minnesota Power submitted additional comments. On August 19, 2019, Xcel Energy, CenterPoint Energy, and MERC submitted additional reply comments, and on September 12, 2019, CenterPoint Energy provided its proposed tariff changes.

#### **IV. Natural Gas Reinforcement Projects**

Based on the information provided at the Commission's February 28, 2019 planning meeting, in its March 18, 2019 Notice of Comment Period – Information from Utilities, the Commission requested that Xcel Energy provide a written account of the reinforcement projects it has planned in areas that experienced low pressure and/or service outages. The Commission also requested that CenterPoint Energy provide a written account of the reinforcement projects it has planned in the two areas where it deployed CNG trailers.

##### **A. Xcel-Gas**

Xcel Energy stated that it modified its distribution system modeling with more severe temperature constraints to account for greater gas loads under the extreme cold conditions experienced in late January 2019. After analyzing its system using the updated model, it has so

far identified nine projects to reinforce delivery pressures in seven communities: Princeton, Becker, Big Lake, Blaine, Hugo, Roseville, and Chisago Lakes.

Xcel Energy stated, “In total, these projects involve installing 13.6 miles of new main in various sizes from 2 inch through 8 inch, adding one new regulating station [ in Big Lake], and upgrading a second regulator station [in Roseville].” Xcel Energy provided a description of the planned reinforcement projects for each community in its Comments at pages 8-9 and committed to submitting an informational filing upon completion of these projects, which it stated will be before the 2019-2020 heating season.

The Department stated that it “anticipates that updated distribution modeling assumptions and data will be incorporated into Xcel Gas’ demand entitlement filing for the 2019-2020 heating season, which the Department will review in detail at that time.”

### **B. CenterPoint**

Prior to the cold weather event, CenterPoint Energy identified two areas of potential concern and deployed temporary CNG stations to these areas. One site was a low-density neighborhood near Cambridge served by a two-inch main. CenterPoint Energy stated, “In the end, additional supply was not required.” CenterPoint Energy will reinforce the Cambridge system by installing, in 2019, approximately 800 feet of four-inch diameter main in that area that will operate at the typical system pressure of 50 pounds per square inch (psi).

The other site was an area near CenterPoint Energy’s Richfield system. The temporary CNG station was used at this site for approximately one hour each day on January 30 and January 31 to sustain operating pressures above five psi. CenterPoint Energy stated “To reinforce the Richfield system and rectify the pressure issues the Company will install approximately 500 feet of 4-inch main that will operate at 10 psi.”

The Department recommended that CenterPoint file further information with the Commission once these projects are completed.

### **C. GMG, MERC & Great Plains**

GMG stated that it “identified areas in system that need reinforcement (which had already been planned for in the 2019 capital budget) and will undertake necessary reinforcement activities to reduce risk during future extreme weather.”

MERC and Great Plains did not report areas that need reinforcement, although MERC stated that some areas of MERC’s system where pressure had historically been an issue have been resolved through upgrades.

## **V. Natural Gas Utilities’ Curtailment Activity During the Cold Weather Event**

In its March 18, 2019 Notice of Comment Period – Information from Utilities, the Commission asked the natural gas utilities to report on curtailment activity during this period. Specifically:

1. What percentage of customers curtailed as requested?

2. What percentage of customers failed to curtail as requested?
3. Were these customers charged failure to curtail or other penalties, and if so, how much penalty revenue was collected in this time period?
4. What percentage of its curtailable customers is each utility able to effectively monitor remotely in as close to real time as possible?
5. Natural gas utilities shall report on the root causes for customers failing to curtail for those customers who failed to curtail as requested.

With respect to questions 1 through 3, the Department also requested additional information regarding unauthorized natural gas use, and provided its Table 3<sup>1</sup> summarizing the information. The table below basically replicates the Department's Table 3, with a few minor changes such as the table number.

**Table 1: Curtailment Compliance and Information**

Utility	Number of Customers Curtailed	Non-Compliant Customers	Percentage of Non-Compliance	Unauthorized Usage (Dkt)	Curtailment Penalties (\$)
CenterPoint Energy	1,613	587	38%	65,884	\$972,724
Great Plains	4	0	0%	0	\$0
Greater Minnesota <sup>2</sup>		0	0%	0	\$0
MERC	75	34	45%	3,858	\$192,915
Xcel Gas <sup>3</sup>	361	139	39%	15,390	\$769,491

CenterPoint Energy stated that "The customers who had unauthorized usage were all subject to, and billed, curtailment penalties."

MERC stated, "All 34 customers were subject to curtailment penalties ..."

Xcel Gas stated:

A total of 222 customers, or 61 percent, fully curtailed their usage to specified levels during the interruption. The remaining 39 percent were invoiced for penalties ...

We note that we intended to curtail our interruptible Transportation customers, but our communication about the curtailment was not as clear as it should have been. As a result, only about two-thirds curtailed their usage during the interruption period; we did not apply penalties to the customers that received the unclear communication. To ensure a similar miscommunication does not occur going forward, we have revised the scripts in our automated customer curtailment

<sup>1</sup> Department May 20, 2018 Comments (Department Comments) p. 7

<sup>2</sup> *Id.*, p. 7, Footnote 17, "Greater Minnesota did not report the number of customers, instead indicating that all customers complied with the curtailment requests."

<sup>3</sup> *Id.*, p. 7, Footnote 18, "Xcel revised its unauthorized usage and curtailment penalty figures in its May 13, 2019 Reply Comments."

communications system and added a confirmation step to ensure we communicate the proper messaging. No pipeline penalties were assessed to any of our customers.

With regard to the percentage of its curtailable customers each utility is able to effectively monitor remotely in as close to real time as possible:

CenterPoint Energy stated it does not have equipment that can read interruptible meters concurrent with the customers' usage. Rather, its meter reading equipment provides after-the-fact usage. CenterPoint Energy receives customer usage information one day after the usage occurred.

Great Plains stated that it has the capability of monitoring 137 of its 173 interruptible customers, approximately 79 percent, in real-time. The "unmonitored interruptible service customers are relatively smaller in nature and Great Plains is comfortable with its system to curtail if necessary."

GMG did not respond to this question.

MERC stated that for its interruptible customers it is able to pull hourly read data each day for the previous day to accurately determine compliance with curtailment orders and to assess curtailment penalties in accordance with MERC's approved tariffs.

Xcel Energy stated it electronically collects hourly meter data for its non-firm customers on a daily basis. Xcel Energy does not have the capability to remotely monitor in near real-time whether its customers have curtailed their usage as called, or not. Xcel Energy collects the usage data after the event concludes, and as a back-up method, also requires customers to submit meter readings from just prior to their curtailment and immediately following the end of the curtailment.

With respect to the root causes for customers failing to curtail as requested, Great Plains and Greater Minnesota reported that there were no instances of unauthorized usage. For the other three natural gas utilities, the Department provided its Table 2, copied below, summarizing the utilities responses on the reasons for unauthorized use as follows:

**Table 2: Reasons for Curtailment**

Xcel Gas	MERC	CenterPoint	
Reason for Unauthorized Use	Reason for Unauthorized Use	Reason for Unauthorized Use	Percentage
Customer equipment failure	Lag in communication	Backup system failure	36%
Backup fuel issues	Backup system issues	Customer staffing issues	26%
Customer communication issues	Daily Firm Capacity (DFC) customer did not reduce to nominations	Customer system modifications and no backup source	11%
	Contact information issues	Ran out of backup fuel	6%



Xcel Gas	MERC	CenterPoint	
	Customer with no backup using gas to prevent freeze	Communication issues	5%
		Electric curtailment	<1%
		Unknown	16%

The Department stated that the responses provided by Xcel Gas, CenterPoint and MERC suggest that interruptible customers' failure to curtail is generally split into two categories, 1) issues with backup equipment, and 2) communication issues. The Department believes that there are tariff improvements that can help address these areas. Staff discusses potential tariff changes in the next section of these briefing papers.

In its May 20, 2019 Comments, the OAG expressed concern with the large proportion of interruptible customers who failed to fully curtail when requested to do so. To remedy this, the OAG recommended that the Commission, in this proceeding:

- Order the Companies [Xcel Energy, CenterPoint Energy and MERC] to document their efforts to ensure this does not happen in the future. Order CenterPoint, Xcel Energy, and MERC to make compliance filings once they have implemented their remediation efforts. These compliance filings should verify that all of the customers that failed to comply with their curtailments have taken whatever steps are necessary to make certain that they will be able to fully comply in the future; and
- Require the Companies to report on any future non-compliance by these customers. These reports should either certify that the Companies have removed the offending customer from interruptible service or justify the decision not to do so.

Further, the OAG recommended the Commission consider this non-compliance when making revenue apportionment decisions regarding interruptible customers in future rate proceedings; and in future rate proceedings, the Commission should consider ordering the Companies to increase the financial penalties for interruptible customers who shirk their curtailment responsibilities.

## VI. Natural Gas Utility – Interruptible Rates

The Department stated:<sup>4</sup>

It is clear that the tariff changes implemented since the 2013-2014 heating season were insufficient to decrease unauthorized use by interruptible customers to an acceptable level. This continued non-compliance, despite increased unauthorized use penalties, may be driven by two main factors 1) the discount between firm and interruptible service may be so large relative to penalties that there is no incentive for certain interruptible customers to curtail service to avoid penalties, and 2) there may be an expectation that very few, if any, curtailments will be called such that it would always be economic to buy through the curtailment.

<sup>4</sup> Department May 20, 2019 Comments at 9.

Regarding the rate differential, interruptible customers receive a lower distribution rate because they accept the risk of having their service interrupted by the utility. Theoretically, this discount represents, in part or full, the avoided cost realized by the utility through decreased investment because the customer will not receive service when interrupted. For example, the gas utility may be able to install smaller equipment or less plant in an area because a customer agrees to interruptible service and thus reduce non-gas costs of the system.

In terms of the gas cost component of the interruptible rate, interruptible customers are not assessed the full demand portion of the Purchased Gas Adjustment (PGA). [Footnote omitted.] The demand rate relates to the costs of procuring peak capacity for firm customers so, in the event of a peak day, interruptible customers should not be receiving service and thus not charged a demand rate.

#### **A. Rate Design for Interruptible Gas Service and Avoided Costs**

The Department noted “that the difference between interruptible and firm distribution rates generally cannot be modified outside of a general rate case or a Commission decision to reopen distribution rates, but that does not preclude the utilities from providing information and discussion regarding this issue in advance of a rate case or making changes to non-rate aspects of its tariffs, if needed.”<sup>5</sup> The Department requested that each natural gas utility provide the following in Reply Comments:

- A detailed discussion of whether avoided costs are included in the utility’s determination of interruptible rates; and
- A detailed discussion of how the utility determines avoided costs for interruptible customers, on both a distribution and commodity basis, and the amount of avoided costs included in the utility’s distribution and PGA rates.

##### **1. Xcel Gas**

Xcel Gas explained that its interruptible distribution rate discounts are not directly based on costs avoided through curtailment. Xcel stated:<sup>6</sup>

Rather, the embedded cost of service, the competitive market, and firm rates are all considered. The interruptible class is not allocated certain costs related to serving peak load, such as a share of our LNG and LPG plants. We set the revenue apportionment to the interruptible class by comparing the allocation of embedded costs in the class cost of service study to revenues under the market prices of typical competitive alternative fuel. We also consider that prices need to be set to reflect a reasonable discount from firm prices, given that interruptible

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<sup>5</sup> Ibid.

<sup>6</sup> Xcel Energy June 28, 2019 Reply Comments at 14.

service is of lower value. Through this process, interruptible distribution rates are set such that they are not subsidized by other classes, since the rates recover more than the class's share of the allocated embedded cost of service.

Our natural gas commodity rates for interruptible service are set at the average commodity cost forecasted for each month in our monthly PGA filings plus any true-up from the prior year's natural gas commodity costs. In addition, any interruptible capacity or overrun purchases associated with non-curtailment days are directly assigned to the interruptible classes in our annual natural gas PGA true-up.

## **2. CenterPoint Energy**

According to CPE, "The interruptible customers have not been given a break, instead in recent rate cases, CenterPoint Energy has allocated "demand-assigned" costs, those related to capacity availability, using an allocator that assigns distribution system capacity costs to the Dual Fuel classes based on an "average daily use.""<sup>7</sup> CPE stated that it "believes that it would be inappropriate to reflect unauthorized use in cost apportionment, as it would require forecasting unauthorized usage and would penalize interruptible customers who conform to tariff requirements."<sup>8</sup>

With respect to avoided costs, CPE explains that customers electing Interruptible Service receive a lower distribution rate because CPE can avoid the costs related to installing either larger sized main, or additional main within CPE's distribution system. Within the context of a rate case, CPE addresses the allocation, not of avoided costs specifically, but of the demand related distribution costs with the Class Cost of Service Study. Further, CPE explains that it relies on design day demand forecasting in determining the acquisition of its upstream gas supply-related resources and the design of its own distribution facilities required to serve its firm service customers. As such, the firm customers create the need for CPE to acquire resources and build facilities to meet these demands and therefore costs are appropriately allocated to the firm customers. CenterPoint believes that its interruptible customers are appropriately charged and that directly charging customers who use unauthorized gas is superior to reflecting unauthorized use in cost apportionment in a rate case.<sup>9</sup>

CPE estimated that interruptible customers would have used approximately 317,000 Dekatherms of natural gas on January 29 and January 30 if not curtailed, whereas while all interruptible customers were called to curtail, the usage for the interruptible class was approximately 69,000 therms over those two days. CPE stated:<sup>10</sup>

The total unauthorized gas use during the January 28-31, 2019 period was a small percentage (approximately one percent) of total throughput over that time

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<sup>7</sup> CenterPoint Energy June 28, 2019 Reply Comments at 3.

<sup>8</sup> Ibid.

<sup>9</sup> Id., at 3-4.

<sup>10</sup> CenterPoint Energy June 28, 2019 Reply Comments at 2.



period. Penalties were assessed at \$19 per Dekatherm for that unauthorized gas; market priced purchases were closer to \$4-\$5 per Dekatherm so the customers that did not immediately curtail usage were required to pay almost four times the cost of the natural gas used. The penalty revenue has been credited to firm customers via the Purchased Gas Adjustment (“PGA”).

...

Instead of focusing on the count of customers who were penalized for non-compliance, CenterPoint Energy is encouraged by the dramatic reduction in use by the interruptible customer group as a whole, and believes enhancements made, including those by Commission Order as a result of the 2013-2014 heating season, improved the outcome in this weather event.

### 3. MERC

In response to the OAG’s recommendation that the Commission consider the interruptible customer non-compliance with curtailment orders when making revenue apportionment decisions in future rate proceedings, MERC stated:<sup>11</sup>

MERC is already in the process of implementing revenue apportionment changes that appropriately recognize the associated risk and value of interruptible versus firm distribution service.

The differential in the cost of interruptible service as compared to firm service is intended to recognize the risk of a customer being called upon to curtail their natural gas usage if necessary. While MERC believes applying financial penalties to the specific non-compliant customers will most effectively ensure individual customer compliance, MERC also believes that it is important that interruptible rates reflect the appropriate value of interruptible service.

Consistent with those considerations, MERC proposed, and the Commission approved [in Docket No. G-011/GR-17-563], a significant overhaul of its interruptible rates and tariffs which will become effective July 1, 2019. In particular, MERC has taken steps to significantly narrow the differential between firm and interruptible distribution rates in order to appropriately recognize the reduced risk of interruption following the addition of the Rochester pipeline capacity...

MERC included a table summarizing these rate changes.<sup>12</sup>

With respect to avoided costs, MERC stated that it plans its distribution system and interstate capacity based on firm customer needs. MERC further explained that while interruptible rates

<sup>11</sup> Minnesota Energy Resources Corporation June 28, 2019 Reply Comments at 3.

<sup>12</sup> Id., at 4.

(both in terms of the distribution charges, gas costs and capacity costs) are designed based on cost-causation, MERC generally has not considered avoided costs in setting firm and interruptible rates.<sup>13</sup>

MERC stated that its distribution rates are determined in part by the results of the company's Class Cost of Service Study (CCOSS). Over several prior rate cases, MERC has defined distribution main and transmission main as the facilities which interruptible load can utilize, providing a benefit to the system. An adjustment is made for interruptible load in MERC's CCOSS to the demand-related portion of plant and expenses for distribution main and transmission main.<sup>14</sup>

With respect to PGA rates, MERC explained that all system sales customers (firm, interruptible, and joint firm/interruptible) are charged the commodity cost of gas and interruptible customers are also assigned a portion of demand costs related to certain service, including storage and balancing services. However, MERC does not secure firm interstate pipeline capacity for its interruptible service customers and does not charge these costs to interruptible customers.<sup>15</sup>

#### **4. Great Plains**

Great Plains explained that its interruptible rates stem from the class cost of service study. "The primary differential in the allocation of distribution costs to an interruptible service class is that the allocation of the demand component of distribution mains is assigned based on a 100% load factor basis rather than peak day usage." Great Plains stated that the specific value attributable to the difference between firm and interruptible service is not identifiable because of the rate design process. With respect to gas costs, Great Plains stated that it does not contract for pipeline capacity for interruptible customers. However, to recognize interruptible sales customers do utilize the upstream capacity when available, interruptible sales customers are assigned certain demand costs based on a load factor allocation.

#### **5. Greater Minnesota Gas**

GMG explained that:

The primary differences between the rates of firm and interruptible classes lie in a lower cost of gas and the demand component. GMG's rates are based on an overall rate design process and GMG's rates resulted from a black box settlement, hence the specific components of the rates directly related to avoided costs are not readily identifiable. GMG's interruptible rates are not directly based on avoided costs but, rather, consider many factors including embedded service costs, firm rates, market considerations, etc. GMG does not contract for firm capacity for interruptible customers...

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<sup>13</sup> Id., at 12.

<sup>14</sup> Id., at 13.

<sup>15</sup> Id., at 12-13.

## B. Potential Tariff Changes

The Department believes that some interruptible service tariff changes would be appropriate and proposed the following in its comments:<sup>16</sup>

- All natural gas utilities should consider a requirement similar to CenterPoint Energy's Process Interruptible Sales Service Rider, which includes a provision that these customers must maintain three current contact people to receive notice of curtailment.
- All natural gas utilities should include language in the tariff stating that it is the responsibility of the utility to update the contact information on a regular basis (e.g., annually, every September 1<sup>st</sup>) and/or that interruptible customers must notify the utility whenever there is a change needed to the customer contacts.
- Modifications to the eligibility requirements section of the interruptible tariff. For example, for customers with backup service, the utility has an obligation to verify customer claims of having back-up service or other ability to cease taking utility service on a scheduled basis... Interruptible tariffs should be clear that customers receiving interruptible service without functioning backup equipment or ability to cease taking utility service, be terminated from interruptible service and switched to an appropriate firm service.
- The tariff language could be written to state that an interruptible customer who fails to interrupt more than once will be removed from interruptible service and cannot return to interruptible service for some period of time.

The Department requested that the natural gas utilities provide proposed tariff language intended to reduce unauthorized use in Reply Comments.

### 1. Xcel Gas

Xcel stated that it believes that its customers on interruptible service intend to curtail as requested. If Xcel becomes aware of customers with no intention to curtail, it would work to move them from the discounted rate to a firm rate. With respect to the Department's suggestion to move interruptible customers to a firm service after one instance of non-compliance, Xcel stated it understands the goal is to reduce unauthorized gas use during curtailments; however, Xcel noted that the circumstances of non-compliance vary. Xcel stated that it believes its "current tariff language regarding possible removal of non-compliant customers from the service along with the significant penalty charge of \$5 per therm for unauthorized gas usage provides reasonable deterrence."<sup>17</sup>

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<sup>16</sup> Id., pp. 10-11.

<sup>17</sup> Xcel Energy June 28, 2019 Reply Comments at 16.

Xcel also noted that there are long-term implications associated with moving a customer from interruptible to firm service that warrant careful consideration. Such a move may require Xcel (1) to procure additional pipeline capacity, contracts which generally have a 10-year term, or (2) to install additional distribution infrastructure. Xcel believes the facts around each situation require consideration before a decision is made to remove the customer from interruptible service and place them on firm service.<sup>18</sup>

Xcel also responded to the Department's recommendation that utilities propose tariff language addressing the requirements for interruptible service, including language that utilities have an obligation to verify customer claims of back-up or ability to cease taking gas service. Xcel stated:

Our current contract and tariff language includes the customer obligation to provide and maintain suitable and adequate back-up or the ability to cease consumption by shutting down process load. Contract and tariff provisions also point to the unauthorized use of gas during an interruption as a breach of the terms of service, and allow the Company to discontinue service or move non-compliant customers to a different rate.

Xcel offered the following tariff language modification (underlined) if the Commission believes more clarity is needed:

An interruptible customer's unauthorized use of gas during an interruption is a breach of the terms of service. Xcel Energy reserves the right to discontinue service for such unauthorized use of gas and/or move non-compliant customers to a different rate class. Customers receiving interruptible service without suitable and adequate back-up or the ability to cease consumption by shutting down process load may be moved to a firm rate class.

Additionally, Xcel responded to the Department's recommendation that interruptible tariffs require customers to maintain three current contacts, and it is the utility's responsibility to update these contacts once per year. Xcel noted that while this provision is not part of its current tariff, it is part of Xcel's process. Xcel offered an update to its tariff to memorialize this process as follows:

Customers must maintain three (3) current contacts to receive notice of curtailment. The Company will make an annual request that customers confirm that contact information is current.

## **2. CenterPoint Energy**

CenterPoint Energy stated that its Dual Fuel Gas Service Contract, which it included as Attachment A to its June 28, 2019 Reply Comments, addresses each of the Department's recommendations. "Specifically, Section 5 requires customers to have operational backup

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<sup>18</sup> Ibid.

systems and alternative fuel supplies; Section 6 affords the Company the right to terminate dual fuel service if, among other reasons, the customer does not comply with the backup requirements; and finally, the contract requires customer contacts and obligates the customers to continually update its contact information on page 3.”<sup>19</sup>

CenterPoint Energy has various concerns about making the current tariff language increasingly constrictive.

First, CPE has concerns with expanding its obligations to verify customer back-up system functionality as it is not an expert in the field of back-up systems. According to CPE, it would take additional resources, and costs, to verify each interruptible customer’s facilities and their operational readiness, and there are liability issues associated with CPE testing a back-up system at a point in time, and that same backup system not operating when called upon during a curtailment.<sup>20</sup>

Second, CPE also has concerns about providing definitive language about removal from interruptible service due to non-compliance. CPE stated that each instance of non-compliance would need to be weighed on its own merits. Additionally, CPE stated that while it may be able to assign an interruptible customer to a firm class for billing purposes, that does not necessarily mean the CPE’s physical distribution system, or demand (pipeline capacity) contracts, can assure firm service to these customers.<sup>21</sup>

Third, while CPE agrees that more than one customer contact is appropriate, there may be some instances where a customer does not employ three individuals responsible for operations. Creating a blanket requirement for three contacts may prevent some customers from signing up for interruptible service.<sup>22</sup>

CPE stated that there are steps that can be taken to enhance the curtailment process, not through tariffs, but through education and discussion with its customers.

### **3. MERC**

MERC stated:<sup>23</sup>

With respect to proposed tariff language intended to reduce unauthorized use, MERC’s current tariffs provide for penalties for unauthorized gas usage equal to the prevailing delivery charge plus the highest incremental supply cost for the day plus \$5 per therm, in addition to any applicable rates and charges incurred as a

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<sup>19</sup> CenterPoint Energy June 28, 2019 Reply Comments at 4.

<sup>20</sup> Ibid.

<sup>21</sup> Id., at 5.

<sup>22</sup> Ibid.

<sup>23</sup> MERC June 28, 2019 Reply Comments at 6.

result of the unauthorized use. MERC's tariffs also allow the utility to shut off the customer's gas supply in the event of failure to discontinue use after a curtailment request has been made.

MERC does not believe that a tariff provision providing for the automatic removal of a customer who fails to fully comply with a curtailment order more than once would achieve increased compliance. MERC also has concerns with administering such a provision because MERC must evaluate the impacts of transitioning a customer to firm service on a case-by-case basis. It must analyze its system and determine whether there is sufficient firm distribution capacity available to provide firm service to that customer or whether distribution system upgrades may be required which could necessitate a customer contribution-in-aid-of-construction.

With respect to tariff language about the requirements for interruptible service, MERC explained that in its most recent rate case, Docket No. G-011/GR-17-563, the Commission approved amended tariff language to clearly state that:

Customer must: (1) have and maintain adequate standby facilities and have available sufficient fuel supplies to maintain operations during periods of curtailment; or (2) agree to curtail the use of interruptible gas on one hour's notice when required by Company.

Further, MERC stated that it does not independently evaluate customer backup equipment, or the adequacy of customer back-up fuel supplies, and it does not mandate that customers have back-up systems, so long as they commit to fully curtail the use of interruptible gas upon request within one hour. MERC agreed that additional communications to interruptible customers regarding their obligations would help to ensure that customers continue to satisfy the requirement of interruptible service. However, MERC stated that it "does not have the capability to independently verify that its customer's backup systems are functioning, nor should it be responsible for doing so." MERC also stated that placing the obligation on the utility for continually monitoring back-up equipment would be unreasonable and impractical.

MERC provided proposed tariff language, it is willing to incorporate, to clarify that it is the responsibility of the interruptible customer to ensure their back-up system is fully functioning and that the customer has adequate alternative fuel supplies available in the event they are called upon to curtail.<sup>24</sup>

MERC also responded to the Department's request for tariff language regarding contact information for interruptible customers and the utility's responsibility for updating this information. According to MERC, it is already MERC's policy to request three separate contacts for all new interruptible customers; however, some interruptible customers do not have the capability to maintain three available contacts for this purpose. MERC does not believe the existence of three contacts should be a condition of interruptible service. MERC explained that it makes its best efforts to request updates to customer contacts in the fall each year, but it is the customer's sole responsibility, as a condition of interruptible service, to notify the Company

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<sup>24</sup> Id., at 8-9.

of any changes. MERC provided proposed tariff language regarding the responsibility of the customer to notify the Company in the event contact information has changed.

MERC also identified another area of its tariff that needs revision. MERC explained:<sup>25</sup>

[D]uring the 2019 cold weather event, many customers continued to burn natural gas after the curtailments were called on a limited basis to heat their building and avoid damage due to failed or non-existent backup systems. Under MERC's current tariffs, daily firm nominations (for interruptible customers, the portion of deliveries the customer elects to receive on a firm rather than interruptible basis) are defined as the quantities first through the customer's meter on each gas day, which begins at 9:00am central time. Often, however, curtailments are not called (and customers are not notified of a likely curtailment) until the middle of the day or later in the afternoon or evening. By that time, customers who had purchased some level of daily firm nomination may have fully utilized the firm portion of their contracted gas. As a result, despite advance planning to purchase some firm capacity, those customers cannot utilize their daily firm nominations during the curtailment because the firm portion was used during the beginning of the gas day. In order to encourage interruptible customers to purchase daily firm nominations in cases where adequate distribution capacity exists to support the level of firm nominations, MERC proposes to establish intraday curtailment provisions to allow customers who nominate a portion of their gas deliveries as firm to have a portion of those firm nominations available in the event a curtailment is called mid-day. In particular, if a partial day curtailment is called (i.e., a curtailment that is called any time other than corresponding to the beginning of the gas day, 9am), a customer's daily firm nominations will be prorated by, and applied to, the number of hours remaining in the gas day when the curtailment goes into effect.

#### **4. Great Plains**

Great Plains does not believe tariff changes are warranted at this time. Great Plains explained that its current tariff effectively provides direction concerning both unauthorized use and the customer requirements for service under Great Plains' interruptible service rates. Great Plains also stated, "The limited amount of non-compliance on Great Plains' system further supports that tariff changes are not needed at this time."<sup>26</sup>

Great Plains also opposed the Department's request for a tariff provision denoting it is the responsibility of the utility to update interruptible customer contact information on an annual basis. Great Plains stated that as part of its annual correspondence with interruptible customers prior to the start of each heating season, customers must complete and return a

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<sup>25</sup> Id., at 10.

<sup>26</sup> Great Plains June 28, 2019 Reply Comments at 3.

form providing Great Plains with at least four contact names, including work phone, cell phone, email address and order of calling preference.<sup>27</sup>

## **5. Greater Minnesota Gas (GMG)**

GMG stated that it agrees with other utilities that global tariff changes are not warranted at this time to address unauthorized use of gas by interruptible customers. GMG explained that its current tariff provides direction regarding interruptible customer qualification, use requirements, priority of service categories, and penalties for failing to curtail. GMG also stated that, “The fact that GMG does not experience problems with unauthorized use provides empirical evidence that tariff changes are not necessary for it at this time.”<sup>28</sup>

GMG also opposed the Department’s request for a tariff provision making it the responsibility of the utility to update interruptible customer contact information on an annual basis. GMG explained that it regularly communicates with its interruptible customers and updating contact information is a shared responsibility between GMG and the customers; placing the onus exclusively on the utility via the tariff is not necessary or appropriate.<sup>29</sup>

## **6. Department - Response Comments**

On August 9, 2019, the Department stated:

Since 2019 is the first major curtailment event after the increase in curtailment penalties [subsequent to the 2013-2014 heating season], the Department does not believe an increase in the penalty amount is needed for those utilities that changed their tariff after the 2013-2014 heating season. However, absent CenterPoint providing evidence showing that its unauthorized use was based on uneconomic reasons, the Department recommends that the Commission require CenterPoint to increase its curtailment penalty...

CenterPoint’s curtailment penalty of \$19 per Dekatherm was lower than the \$20 per Dekatherm charges that the Commission determined were too low for other utilities after the 2013-2014 heating season.

Further, according to the Department, CenterPoint Energy’s level of unauthorized use during the cold weather (65,884 Dekatherms) was nearly identical to CenterPoint Energy’s total unauthorized use during the 2013-2014 gas year (69,660 Dekatherms). This suggests that CenterPoint Energy’s unauthorized use compliance has not improved since the 2013-2014 heating season. “If the unauthorized use was the result of economic buy through by interruptible customers, it shows that CenterPoint’s penalty tariff was insufficient and needs to be changed.”<sup>30</sup>

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<sup>27</sup> Id., at 4.

<sup>28</sup> Greater Minnesota Gas July 3, 2019 Reply Comments at 2.

<sup>29</sup> Ibid.

<sup>30</sup> Department August 9, 2019 Response Comments at 11-12.

The Department recommended that the Commission require CenterPoint Energy to increase its penalty for unauthorized gas usage to \$5 per therm, which would be the same penalty charged by other gas utilities. Alternatively, if the Commission decides to increase penalty charges for the other gas utilities, the Department recommended that the Commission set CenterPoint Energy's penalty at the same level as the other utilities.<sup>31</sup> (The Department modified this recommendation in comments submitted on September 27, 2019. Please see below, pp. 27-28 of these briefing papers.)

With respect to interruptible customer contact information, the Department believes some of the utilities have overstated their concerns. The Department stated:<sup>32</sup>

[I]ncorrect contact information was one of the reasons noted by the utilities for unauthorized use during the cold weather events. The Department continues to believe that three contacts for interruptible customers is a reasonable number and minimizes the risk that the utility is unable to contact an interruptible customer in the event of a curtailment.

However, the Department also acknowledged that there are instances where three contacts may not be feasible. "[T]he Department believes it is acceptable to include tariff language that allows less than three contacts, if the customer provides an addendum acknowledging it has less than three contacts and it accepts the risk this entails."<sup>33</sup>

The Department believes that since the utilities already collect customer contact information, memorializing this process in the tariff is reasonable and will formalize the obligation of both the customer and the utility. The Department recommended the following tariff language for inclusion in the interruptible schedules for natural gas utilities:<sup>34</sup>

Customers must maintain three (3) current contacts to receive notice of curtailment. If the customer does not have three qualified contacts, the customer shall provide an annual attestation to the Company that it is unable to have three qualified contacts and the customer understands they are obligated to curtail service when requested. The Company will make an annual request that customers confirm that contact information is current.

The Department also believes the utilities misinterpreted the Department's recommendation that utilities verify back-up equipment. The Department explained that what it meant was an annual attestation that interruptible customers have fully functioning back-up equipment and/or the ability to curtail natural gas use when requested, not that the utility test the equipment to verify that the equipment is in working order and operational.

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<sup>31</sup> Id., at 12.

<sup>32</sup> Department August 9, 2019 Response Comments at 16.

<sup>33</sup> Ibid.

<sup>34</sup> Department August 9, 2019 Response Comments at 17.

The Department stated it should improve the utility's ability to model their distribution systems and create reliability contingencies if the utilities know which customers have back-up equipment, and where those customers are on their systems. The Department recommended the following tariff language for inclusion in the interruptible schedules for natural gas utilities:

On an annual basis, the customer shall provide an annual attestation to the Company that it has fully functioning back-up equipment and/or the ability to curtail natural gas use when requested. The operational and functionality of the back-up equipment is the sole responsibility of the interruptible customer. Failure to maintain this equipment or failure to curtail represents a breach of the terms of interruptible service and may result in termination of the agreement.

The Department stated that it understands the utilities' reluctance to remove non-compliant interruptible customers automatically, but it believes the utilities should address the issue of transferring non-compliant interruptible customers to firm service. The Department stated:<sup>35</sup>

[F]or repeat offenders who fail to interrupt [curtail] service more than once, the utility can increase the financial penalty for unauthorized use by requiring these customers to pay for system upgrades and then move them to firm service. The utility has an obligation to firm ratepayers to ensure that interruptible customers are truly interruptible. If an interruptible customer habitually fails to curtail, they are a de facto firm customer and, in the Department's opinion, should pay firm rates.

The Department does, however, agree with the utilities that the circumstances surrounding non-compliance may differ and should be analyzed to determine the cause of a customer's failure to curtail.

The Department recommended that the Commission require natural gas utilities, when a customer fails to curtail twice, or a single non-compliant event is significant, to fully analyze the circumstances around the non-compliance by the interruptible customer. As part of this analysis, the utility should provide an estimate of the costs and requirements to move this customer to firm service. The Department also recommended that the Commission require the utilities to file these analyses annually with the Commission on May 1.<sup>36</sup> (The Department modified this recommendation in comments submitted on September 27, 2019. Please see below, pp. 27-28 of these briefing papers.)

The Department stated that this approach will allow the Commission to review unauthorized use during the last heating season and assess whether the utility is appropriately administering its interruptible tariff. "This date is also early enough that the utility may be able to make

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<sup>35</sup> Department August 9, 2019 Response Comments at 18.

<sup>36</sup> Ibid, and Id., at 22.

necessary system improvements to allow movement of a customer to firm service prior to the next heating season.”<sup>37</sup>

## 7. OAG - Response Comments

On August 9, 2019, the OAG reiterated its position that changes need to be made to address the failure of a large portion of the interruptible natural gas customers of Xcel Energy (Xcel), CenterPoint Energy (CenterPoint) and MERC to appropriately curtail their natural gas usage during the severe weather event.<sup>38</sup>

The OAG stated that, while MERC seems willing to consider the lack of compliance by interruptible customers when apportioning revenue in future rate proceedings, neither Xcel nor CenterPoint agreed with this proposal.<sup>39</sup>

The OAG further stated, “What was most notable with the utilities’ responses was a general belief that current penalties are sufficient to deter unauthorized usage during a curtailment and an attempt to minimize the scope of the problem.” According to the OAG, the fact that such a large percentage of the curtailed customers failed to fully comply with the requirement demonstrates that the existing policies are inadequate.<sup>40</sup>

However, the OAG agreed there is some merit to CenterPoint’s argument that adjusting the class-wide revenue apportionment “would penalize interruptible customers who conform to tariff requirements.” Additionally, the utilities raised concerns about the impact to customers that partially complied with the curtailment and that each instance of non-compliance would need to be weighed on its own merits.<sup>41</sup>

The OAG proposed another potential solution, if the Commission is persuaded by these concerns, that would address both the impact on compliant interruptible customers and the proportionality of the penalty with respect to customers who partially complied with curtailment orders:<sup>42</sup>

The Commission could, when approving interruptible tariffs, require that those tariffs provide for a doubling of the per-therm penalty for every subsequent failure to curtail. Such a policy would make the penalty a more effective deterrent. If a customer is a repeat offender, exponential growth in the penalty will quickly either push that customer into seeking firm service, incent compliance with the interruptible requirements, or result in a penalty that is so high as to inarguably compensate the system for the customer’s repeated non-compliance. As this

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<sup>37</sup> Department August 9, 2019 Response Comments at 18.

<sup>38</sup> OAG August 9, 2019 Response Comments at 1.

<sup>39</sup> *Id.*, at 2.

<sup>40</sup> *Ibid.*

<sup>41</sup> *Id.*, at 3.

<sup>42</sup> *Id.*, at 3-4.

change would only apply to the penalty for non-compliance, interruptible customers that are living up to their obligations will remain entirely unaffected by the escalating penalties. Furthermore, since it would leave the initial penalty unchanged, so-called “first time offenders” would not be punished any more harshly than they would by the existing penalties. Finally, since the consequences for non-compliance will continue to be assessed on a per-therm basis, the penalty will be proportional to the violation. In other words, a customer that only partially fails to curtail will only be penalized for the gas that they use while under curtailment.

The OAG recommended that the Commission “take steps consistent with the OAG’s recommendations in these Response Comments and its Initial Comments that are reasonably calculated to significantly improve the compliance rate for interruptible customer curtailment practices in Minnesota’s next severe weather event.”<sup>43</sup>

## **8. Natural Gas Utilities - Additional Reply Comments**

### **a. Xcel Gas**

Xcel responded stating that it accepts the recommendations to modify its tariffs as it proposed and as further recommended by the Department. Xcel also accepts the OAG’s recommendation to increase the customer financial penalty for repeated non-compliance.<sup>44</sup>

Specifically:

With regard to memorializing the three customer contacts requirement, Xcel stated:<sup>45</sup>

The Department recommended the Commission approve the following tariff addition in the Requirements and Deliveries section of our Interruptible Gas Service Agreement Section 7, Sheet 7-10 that we proposed in our June 28, 2019 Reply Comments, which we accept:

Customers must maintain three (3) current contacts to receive notice of curtailment. If the customer does not have three qualified contacts, the customer shall provide an annual attestation to the Company that it is unable to have three qualified contacts and the customer understands they are obligated to curtail service when requested. The Company will make an annual request that customers confirm that contact information is current.

Xcel also accepted the Department’s recommended new tariff language requiring interruptible customers to attest to the utility that they have fully functioning back-up equipment and/or the

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<sup>43</sup> OAG August 9, 2019 Response Comments at 4.

<sup>44</sup> Xcel Energy August 19, 2019 Reply Comments at 1.

<sup>45</sup> Id., at 1-2.

ability to curtail gas use when requested. Specifically, Xcel proposed the following language addition to the end of the Curtailment Priority Category of its Interruptible Gas Service Agreement Section 7, Sheet 11:<sup>46</sup>

On an annual basis, the customer shall provide an annual attestation to the Company that it has fully functioning back-up equipment and/or the ability to curtail natural gas use when requested. The operational and functionality of the back-up equipment is the sole responsibility of the interruptible customer. Failure to maintain this equipment or failure to curtail represents a breach of the terms of interruptible service and may result in termination of the agreement.

Xcel noted that should the Commission approve this requirement, Xcel's intent would be to combine this attestation process with its pre-season education campaign and annual request to confirm customer contact information.

With respect to the OAG's recommendation that the Commission require interruptible tariffs provide for a doubling of the per-therm penalty for repeated failures to curtail, Xcel stated:

If the Commission agrees, we would include in our proposed tariff modifications the following changes to our interruptible tariffs:<sup>47</sup>

Section 7, Sheet No. 11:

An interruptible customer's unauthorized use of gas during an interruption is a breach of the terms of service. Xcel Energy reserves the right to discontinue service or increase the per therm penalty as specified in Section 5, Sheet No. 12 for such unauthorized use of gas and/or move non-compliant customers to a different rate class. If an interruptible customer's service is reconnected following a breach of the terms of service or unauthorized use of gas, the customer will reimburse the company for the cost of reconnection.

Section 5, Sheet No. 12:

For the initial occurrence, a customer failing to curtail, interrupt, or otherwise restrict (partially or totally) use of gas hereunder when requested to do so by Company ~~customer~~ shall pay, in addition to the appropriate above rates, the higher of (i) \$5.00 per Therm, or (ii) an amount equal to any incremental cost incurred by the Company that results from a failure to curtail or interrupt. Subsequent failures by the customer to fully or partially curtail, interrupt, or otherwise restrict use when requested by the Company, customers shall pay the higher of (i) \$10.00 per Therm or (ii) an amount equal to any incremental cost incurred by the Company that results from a failure to curtail or interrupt.

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<sup>46</sup> Id., at 2.

<sup>47</sup> Id., at 2-3.

Xcel proposed, if the Commission approves the recommended tariff changes, to submit a Miscellaneous Petition containing the changes within 30 days of the Commission's Order in this proceeding.

With respect to the annual analysis of non-compliance by interruptible customers, Xcel does not agree a May 1 due date is practicable as it would not leave sufficient time for a thorough analysis of late-season curtailments, and cautions against requiring the Company to provide detailed cost and infrastructure information. Additionally, Xcel states that the analysis associated with the potential move of each of the customers to firm service would require engineering and design time, and would be a costly and timely undertaking. Xcel suggests that this analysis instead include a narrative regarding the potential engineering and gas supply implications, and possibly an indicative measure of the complexity of converting those customers to firm service.<sup>48</sup>

Xcel states that it is happy to work with customers to understand and document the reasons for non-compliance, and submit an annual compliance filing. However, as an alternative to the May 1<sup>st</sup> report timing, Xcel believes the Gas Annual Automatic Adjustment (AAA) docket and timing would be the most appropriate proceeding in which to provide the required information on a going-forward basis. Xcel noted that the Commission has ordered utilities to provide information regarding unauthorized gas use for each customer that did not comply with a called interruption in the AAA filings for the next three years (Docket No. G-999/AA-18-374).<sup>49</sup>

#### **b. CenterPoint Energy**

CenterPoint Energy does not oppose increasing its per therm penalty for unauthorized gas use, but disagrees with the Department's recommendation to increase its penalty amount to \$5 therm. CenterPoint explained that its penalty structure differs slightly from the structure used by other gas utilities. CenterPoint Energy stated:

CenterPoint Energy charges customers \$1 per therm or \$2 per therm, depending on whether it is the customer's first occurrence of unauthorized use or a subsequent occurrence in the same year, and in addition the highest incremental supply cost for the day, rather than the WACOG [weighted average cost of gas]...

CenterPoint Energy prefers its structure to the flat penalty structure used by other Minnesota utilities. Charging non-compliant interruptible customers the highest incremental supply cost of the day more effectively compensates firm customers for actual costs incurred due to interruptible customer non-compliance and sends appropriate price signals to interruptible customers about the cost of their violation.

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<sup>48</sup> Xcel Energy August 19, 2019 Reply Comments at 3.

<sup>49</sup> Id., at 3-4.

The Company agrees, however, that it may be appropriate to increase its penalty amounts and proposes to charge non-compliant customers \$3 per therm or \$6 per therm, depending on whether it is the first or second occurrence in the heating season, in addition to the highest incremental supply cost for the day. The Company is concerned that a \$5 penalty for a first instance of non-compliance (in addition to the highest incremental supply cost of the day) could be excessive, but agrees with the Office of the Attorney General that an escalation to a higher penalty for repeat offenders is appropriate. CenterPoint Energy will file a supplemental filing in this docket showing proposed tariff changes.

(Staff notes that CenterPoint stated its understands that other Minnesota gas utilities charge non-curtailing customers a penalty of \$5 per therm and also charge customers the applicable weighted average cost of gas for unauthorized volumes used, and it cites as an example Xcel Energy's Minnesota Gas Rate Book, Section No. 5, 5<sup>th</sup> Revised Sheet No. 12.

However, staff notes that MERC's Minnesota Rate Book, for example, 8<sup>th</sup> Revised Sheet No. 5.10 states in that "The penalty for unauthorized use of gas will be the prevailing delivery charge plus the highest incremental supply cost for the day plus \$5 per therm." Emphasis added.)

While CenterPoint agrees with the OAG that an escalation to a higher penalty for repeat offenders is appropriate, and the existing tariff increases the penalty for subsequent instances of non-compliance, CenterPoint is opposed to increasing the per therm penalty for third or fourth violations.<sup>50</sup>

In CenterPoint's experience, more than two instances of non-compliance per winter is uncommon. CenterPoint believes that the administrative and programming effort required to set up the capability to bill customers differently for third or fourth non-compliance occurrences would likely outweigh the potential benefit to firm customers. CenterPoint stated that it "prefers to work with customers who repeatedly engage in unauthorized use to either move to firm service, if available, or improve their processes or backup systems so they are able to curtail as requested."<sup>51</sup>

CenterPoint does not object to filing an annual report analyzing the circumstances around interruptible customer non-compliance, but does object to completing a full analysis of the costs of moving a customer to firm service in every case of repeated or significant non-compliance.

According to CenterPoint, "in most cases the noncompliant usage is relatively low and temporary, and the problems are easily explained and resolved." In such instances, completing a full analysis of the costs and requirements to move the customer to firm service would be unnecessarily burdensome.<sup>52</sup>

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<sup>50</sup> CenterPoint Energy August 19, 2019 Reply Comments at 2-3.

<sup>51</sup> Id., at 3.

<sup>52</sup> Id., at 4.

Further, CenterPoint stated, “For large customers it will generally not be possible to ‘make the necessary system improvements’ to move the customer to firm service by the next heating season... Because of the extended time and expense involved in moving customers to firm service it can be more appropriate for the Company to pursue other options.”<sup>53</sup>

CenterPoint recommended that, “instead of requiring a determination of the costs and requirements to move the customer to firm service in all cases of repeated or significant noncompliance, the Commission allow the Company to report, for each repeated or significant noncompliance event, either (1) the costs and requirements to move the customer to firm service or (2) a justification for not completing this analysis and a description of what the Company or customer has done or is doing to prevent further non-compliance.”<sup>54</sup>

CenterPoint stated that it has no objection to the following recommendations offered by the Department.<sup>55</sup>

- That the Commission require the utilities to report by November 1, 2019 on their progress in implementing various process improvements to address severe weather events.
- That utility interruptible service tariffs should be changed to require interruptible customers to maintain three current contacts to receive notice of curtailment. If the customer does not have three qualified contacts, the customer shall provide an annual attestation to the Company that it is unable to have three qualified contacts and the customer understands that they are obligated to curtail service when requested. The Company will make an annual request that customers confirm that contact information is correct.
- That the utility interruptible service tariffs should be changed to require an annual attestation by the customer to the utility that the customer has functioning back-up equipment and/or the ability to curtail natural gas use when requested. The operation and functionality of the back-up equipment is the sole responsibility of the interruptible customer. Failure to maintain this equipment or failure to curtail represents a breach of the terms of the interruptible service and may result in termination of the agreement.

Additionally, CenterPoint proposes to change its firm/interruptible tariffs in a fashion similar to MERC’s proposal to change its firm/interruptible service tariff so that if a partial day curtailment is called, the number of firm volumes remaining for the customer’s use will be prorated

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<sup>53</sup> Ibid.

<sup>54</sup> Id, at 5.

<sup>55</sup> Ibid.

depending on the number of hours remaining in the gas day when curtailment goes into effect.<sup>56</sup>

On September 12, 2019, CenterPoint Energy provided redlined copies of its proposed tariff changes.

### **c. MERC**

In response to the OAG's alternative proposal to require interruptible tariffs to provide for a doubling of the per-therm penalty for every subsequent failure to curtail, MERC stated that:<sup>57</sup>

[T]his proposal does not address customers who partially comply or the varied circumstances of non-compliance or incomplete compliance with called curtailments. Additionally, as discussed in the Company's June 28, 2019, Reply Comments, tracking customer compliance over multiple years would be difficult as a customer that failed to curtail during one curtailment event may not have an issue for several years and then experience a backup system failure. Some customers also operate multiple facilities and may experience issues at different facilities over time. The administrative and programming effort required to set up the capability to bill customers increasing rates for subsequent non-compliance occurrences would be substantial relative to the impact on further deterring non-compliance. Effective July 1, 2019, MERC modified its tariffs to assess the highest incremental supply cost for the day for unauthorized gas usage in addition to the \$5 per therm charge. [Footnote omitted.] MERC's unauthorized gas charges are significant and should be sufficient to deter economic noncompliance.

MERC believes a more appropriate approach to ensuring interruptible customer compliance is to address situations of non-compliance on a case-by-case basis. The modifications and tariff revisions proposed in the Company's June 28, 2019, Reply Comments are intended to mitigate non-compliance and provide additional tools to allow customers to firm up a portion of their natural gas service. And to the extent customers demonstrate an inability to comply, MERC has and will continue to take steps to remove those customers from interruptible service...

As the Department recognized in its August 9, Response Comments, MERC provided a detailed analysis of why individual customers did not curtail and, in the case of MERC, it appears that the majority of unauthorized use was for noneconomic reasons. [Citation omitted.] A compounding curtailment penalty as proposed by the OAG would likely not be successful in addressing noneconomic reasons for noncompliance... The tariff modifications proposed by the Company [in its June 28, 2019 Reply Comments] will most appropriately address the specific circumstances of noncompliance that MERC has experienced.

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<sup>56</sup> Id., at 6.

<sup>57</sup> MERC August 19, 2019 Additional Reply Comments at 2-3.

In response to the Department, MERC stated that:<sup>58</sup>

- It has no objection to the Department’s recommendation to convene a workgroup to discuss communications related to severe weather and other high consequence events.
- It agrees to provide a discussion of progress toward implementing the identified areas of improvement by November 1, 2019.
- It agrees with the Department’s recommendation that the Commission approve MERC’s proposed tariff modifications.

MERC did not agree with the Department’s recommendation that gas utilities make an annual filing by May 1 each year (1) identifying any customers who fail to curtail twice or any “significant” non-compliance events, (2) analyzing the circumstances of the non-compliance, and (3) estimating the costs and requirements to move the customer to firm service.

MERC reiterated that tracking customer compliance data over multiple years would be difficult. “Further, the specific circumstances surrounding “significant” customer non-compliance is likely to vary with the circumstances.”<sup>59</sup>

According to MERC, “Moving to fully firm service would not necessarily be the best or most appropriate result in all customer situations.” Further, before moving a customer to either full or partial firm service, “MERC would need to undertake a customer-specific engineering analysis in each case to evaluate whether sufficient firm distribution capacity is available to provide firm service or whether upgrades to the distribution system would be required.” MERC stated, “providing the comprehensive analysis proposed by the Department by May 1 for the preceding heating season likely would not be feasible.”<sup>60</sup>

MERC also noted that information regarding curtailments and customer compliance are already provided in the utility Annual Automatic Adjustment (AAA) reports. MERC stated that additional reporting requirements are unnecessary. If the Commission desires additional information on interruptible customer compliance with curtailments, specific requests be made a part of the AAA process.<sup>61</sup>

In response to the Department’s recommended tariff language requiring customers to maintain three current contacts or provide an annual attestation that it is unable to have three qualified contacts, and the utilities obligation to make an annual request that customers confirm contact information is current, MERC explained its policy is to request three separate contacts for all new interruptible customers. Further, MERC explained its annual process for attempting to make sure contact information is up-to-date. Additionally, MERC stated that it will continue to

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<sup>58</sup> MERC August 19, 2019 Additional Reply Comments at 4.

<sup>59</sup> Ibid.

<sup>60</sup> MERC August 19, 2019 Additional Reply Comments at 4-5.

<sup>61</sup> Id., at 5.

run test notifications to ensure that the system is operational and that customers are receiving the notification information.<sup>62</sup>

MERC stated that it is the customer's sole responsibility to notify the Company of any changes in customer contacts and MERC proposed tariff revisions, included in Attachment B to its June 28, 2019, Reply Comments, to explicitly state that it is the responsibility of the customer to notify the Company in the event the contact information has changed.<sup>63</sup> "Based upon its experience in this regard, MERC does not believe the resources required to attempt to administer and track compliance with contact information requirements would result in improvements to customer compliance with interruptible service that would justify such efforts."<sup>64</sup>

In response to the Department's recommended tariff language requiring the customer to provide an annual attestation to the Company that it has fully functioning back-up equipment and/or the ability to curtail natural gas use when requested, MERC explained that it already proposed additional tariff revisions<sup>65</sup> to clarify that it is the responsibility of the interruptible customer to ensure their back-up system is fully functioning and that the customer has adequate alternative fuel supplies available in the event they are called upon to curtail.<sup>66</sup>

MERC stated:<sup>67</sup>

MERC does not believe the time and resources required to administer and track annual attestations for customers regarding the functionality of their backup system and/or ability to curtail their natural gas usage when requested would result in improvements to customer compliance with interruptible service that would justify such efforts. Even if a customer backup system is in good working order one day, many factors could cause that system to malfunction.

## **9. Department – Additional Comments**

On September 27, 2019, the Department submitted additional comments. The Department indicated its appreciation for the additional comments and tariff language provided by the utilities.

In response to the utilities statements that a May 1 reporting deadline for the analysis of the costs of moving significant or repeat non-compliant customers to firm service is too soon after the heating season, the Department amended its recommended deadline to July 1. In response to CenterPoint's response that there are circumstances under which

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<sup>62</sup> Id., at 5-6.

<sup>63</sup> Id., at 6.

<sup>64</sup> Ibid.

<sup>65</sup> Included in Attachment B to MERC's June 28, 2019 Reply Comments.

<sup>66</sup> MERC August 19, 2019 Additional Reply Comments at 6.

<sup>67</sup> MERC August 19, 2019 Additional Reply Comments at 7.

it is not necessary or appropriate to complete the full analysis of costs of moving non-compliant customers to firm service, the Department amended its original proposed reporting to require the utilities to provide, EITHER an estimate of the costs and requirement to move each non-compliant customer to firm service OR a justification of why this analysis is not needed for this customer. The Department argued that these changes to the original proposal would adequately address the utilities concerns and would result in a more efficient analysis.<sup>68</sup>

The Department recommended approval of the tariff changes proposed by Xcel Gas, MERC, and CenterPoint in their June 28, July 1, and September 12 comments respectively. The Department also reiterated its recommendation that the Commission clarify that Xcel Gas' proposed reinforcement projects are not eligible for rider recovery given that the system was not adequately constructed.<sup>69</sup>

In response to the OAG's proposed escalating penalties, the Department recommends a two-stage penalty structure for unauthorized use. For the first instance of unauthorized use, the Department recommends a \$5 per therm penalty plus the highest incremental replacement cost for gas on the day. For each additional instance, the Department recommends increasing that to \$10 per therm plus the highest incremental replacement cost. For additional instances of unauthorized use past two, the Department recommends that the utility consider removing the non-compliant customer to firm service.

## **VII. Natural Gas System Peak Day Reliability**

### **A. Department - Comments**

In its May 20, 2019 comments (at pp. 19-21), the Department identified natural gas system reliability on a peak day as another area that requires additional analysis and discussion. The Department identified the annual demand entitlement filings that regulated natural gas utilities prepare each year as being a part of a gas utility's supply plan to ensure firm reliability on a peak day, as well as distribution planning.

The Department stated:

As part of the demand entitlement, each utility conducts a design-day analysis, which estimates firm usage on a peak day. Although the weather event associated with this docket did not reach the Commission planning objective for any natural gas utility, the weather conditions experienced were close to the planning objective and allow parties to reach certain educated conclusions regarding whether natural gas utilities likely had sufficient capacity to serve customers on a Commission peak day.

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<sup>68</sup> Department September 27, 2019 Additional Comments at 11.

<sup>69</sup> Id., at 12.

The Department performed a preliminary analysis of data for Xcel Gas, CenterPoint Energy, and Greater Minnesota Gas (GMG). At the time of the preliminary analysis, the Department did not have sufficient data from MERC and Great Plains.

Based on its analysis, the Department stated “it appears that Xcel Gas and CenterPoint procured sufficient entitlement and peaking capacity to serve firm customers on a peak day.”

With respect to Xcel Gas, the Department compared the estimated peak day number (838,334 Dkt/day) to the Xcel Gas’ total entitlement level (891,084 Dkt/day) and stated, “The calculated difference in available capacity suggests that Xcel had sufficient gas available to serve firm customers.” There were noted deliverability issues in Princeton and Hugo. However, the Department stated that “Xcel Gas has not provided sufficient discussion detailing why it experienced system reliability issues, given the results of its design-day analysis, and why it asked for conservation during the cold weather event.” The Department requested that Xcel provide in Reply Comments, a detailed discussion, and hour-by-hour timeline that clearly shows why Xcel Gas made the general conservation request. As part of this discussion, the Department requested that Xcel detail, at a minimum, the assumptions between its distribution planning and design-day analysis that differed and an explanation of why these assumptions differed.

The Department is concerned that GMG would have potentially experienced reliability issues on a peak day. The Department estimated potential firm usage on a peak day of 14,275 Dkt/day. GMG procured 14,109 Dkt/day of entitlement for the heating season, which is a deficit of 166 Dkt/day. The Department noted that it does not believe that GMG was imprudent in its design-day analysis or procurement strategy and expects GMG to address any analytical deficiencies in its next demand entitlement filing.

The Department concluded, however, that, based on its analysis at this time, Minnesota natural gas utilities generally planned well, from an entitlement and procurement standpoint, for the recent cold weather event.

## **B. Xcel Gas - Reply Comments**

In its June 28, 2019 reply comments (at pp. 9 -14), Xcel Gas provided a detailed discussion of supply planning and distribution modeling and why and how they are necessarily different. Xcel also provided information about its general appeal for customers to lower their thermostats.

Xcel Gas stated that supply planning involves the transmission system, which moves large amounts of natural gas thousands of miles from the producing regions to local distribution companies, like Xcel Gas. Supply planning focuses on ensuring sufficient gas volume is delivered to the Xcel Energy service area for use throughout a 24-hour period. The modeling uses an average daily temperature of -26F. The annual demand entitlement filing determines the amount of capacity needed for the upcoming heating season, based in part on Xcel ‘gas’ estimates of the amount of total capacity that is needed to serve firm customers on a design day for the entire Xcel Gas system.

Xcel explained, “Contrary to Supply Planning, which ensures *daily* volumes to a limited number of points (Gate Stations) on the system, Distribution Delivery Modeling ensures adequate *peak hour* volumes to over 465,000 customer homes and businesses in Minnesota.” Xcel Gas continuously monitors flow rates and pressures at various points in its system and has 551 points that can be monitored via Supervisory Control and Data Acquisition (SCADA).

Xcel stated:<sup>70</sup>

Local distribution system modeling predicts how pressures will decrease as gas flows through the network of piping – and in contrast to Supply Planning – the analysis is for the *peak hour* usage in the network of piping, considering the length and diameter of each pipeline segment... [T]he models assess the capabilities of the network to maintain adequate pressures at the farthest points of the system.

Similar to supply planning, distribution modeling considers weather/temperatures. Xcel Gas noted that its engineering models have, for many years, used -25F for the Princeton and Hugo areas to determine when system reinforcements may be necessary. Xcel Gas stated that it has since updated its models to reflect lower temperatures, using a “one in thirty” risk management approach. It has updated the temperature input for certain geographic portions of its service area, including Princeton and Hugo. Xcel Gas noted that it has no record of any customer outages during prior cold weather events due to low system pressures.

Xcel provided additional explanation about its decision to issue a general request the afternoon of January 30, 2019 for customers to lower their thermostats. Xcel made this decision with the knowledge that unplanned localized gas outages had already occurred in Princeton and Hugo, and a concern that the coldest temperatures were expected in the early morning hours of January 31<sup>st</sup>. The appeal was issued out of an abundance of caution for public safety. Xcel continues to believe it was the right decision given the circumstances.

### C. Department - Response Comments

In its August 9, 2019 response, the Department stated:<sup>71</sup>

The Department appreciates Xcel Gas’ additional information and clarification on its supply planning and distribution modeling and its general curtailment request. Based on the information, the Department concludes that Xcel Gas’ general curtailment request was appropriate and reasonable. Given its distribution modeling assumption of -25F for certain parts of its system, Xcel Gas’ decision to curtail was appropriate since temperatures on the morning of January 31 were expected to be significantly lower than -25F. Although that particular decision was appropriate, it does not justify Xcel Gas’ previous temperature input of -25F in the engineering model for distribution modeling.

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<sup>70</sup> Xcel Energy June 28, 2019 Reply Comments at 12.

<sup>71</sup> Department August 9, 2019 Response Comments at 5-6.

Xcel Gas' weather assumption of -25F for the Princeton and Hugo areas was unreasonable on several levels. First, during a June 5, 2019 meeting with the Department, Xcel Gas stated that it used -25F or -35F, dependent upon the location on the Xcel Gas system. The weather assumption of -25F is warmer than the supply planning assumption of -26F on average for the entire gas day, which on its own is problematic. Further, the average Minnesotan would not consider -25F or -26F as the lowest possible temperature for those communities.

Xcel Gas stated that the Princeton area was first placed into service in 2000 and the Hugo area was first placed into service in 1999. Xcel Gas also noted that temperatures at St. Cloud Airport (Princeton area) reached -36F in January 2009 and temperatures were likely -26F at Forest Lake (Hugo area) in January 2009 and January 2011. This information shows that Xcel Gas' distribution modeling was incorrect in these areas and Xcel Gas had multiple opportunities to correct these issues.

Moreover, the Department reviewed historical data for the Princeton area, and it appears that Xcel Gas' planning assumptions for this area were inherently flawed from the beginning. The historical data at the St. Cloud weather station shows that low temperatures have reached -40F within the last 30 years, including January 19, 1994 and February 2, 1996. Clearly, Xcel Gas erred in its original planning for the Princeton area given the cold weather events in 1994 and 1996.

Given the concerns with Xcel Gas' distribution modeling, and its statement that it subsequently updated its assumption, the Department requested further clarification, which Xcel Gas provided in response to informal discovery. In this response, Xcel Gas noted that its new distribution planning model is split into ten weather zones with unique weather assumptions. Xcel Gas stated that it determines the distribution system minimum temperature by calculating numerous probabilities to determine the likelihood that a temperature could be reached once within 30 years. This method allowed Xcel Gas to arrive at the following, updated, minimum temperatures.

**Table R-1: Xcel Gas Natural Gas Dist. Model – 2019 Weather Zone Planning Temps.**

Ashland	Brainerd	Eau Claire	Fargo	Faribault	Grand Forks	La Crosse	St. Cloud	St. Paul	Western
-37	-48	-37	-35	-37	-40	-35	-40	-32	-34

Thus, Xcel's new planning method assumes a planning temperature of -40F in the St. Cloud area, for example, based on the likelihood of the area reaching -40F once in 30 years.

Based on Xcel Gas' clarification of its updated distribution modeling assumptions, the Department is confident that Xcel Gas has corrected the problems that led to the reliability issues and curtailment request during the cold weather event. As noted in its Comments, Xcel Gas re-calculated its distribution modeling based on

updated weather assumptions and identified other areas that required reinforcement and is in the process of making these upgrades. The Department reviewed the revised distribution modeling temperatures and concludes that they appear acceptable at this time. In its Reply Comments, Xcel Gas committed to providing updates on these projects; the Department appreciates this offer and looks forward to reviewing this information when it is available.

The Department notes that the reinforcement projects listed on pages 8-9 of Xcel's Comments in this proceeding should not be eligible for cost recovery through a rider, since the system in these areas was not adequately planned for when they were first served, as discussed above. [footnotes omitted]

The Department recommended that the Commission clarify the Xcel Gas' proposed reinforcement projects are not eligible for rider recovery given that the system was not adequately constructed.<sup>72</sup>

#### **D. Xcel Gas - Reply Comments**

In its August 19, 2019 reply comments, Xcel indicated that with regard to its proposed natural gas reinforcement projects to address areas that experienced low pressure and/or service outages and the Department's recommendation that these projects not be eligible for rider recovery, Xcel stated, "We agree with the Department that these projects are not eligible for cost recovery through the Gas Utility Infrastructure Rider, and we have no intention to seek such recovery."<sup>73</sup>

### **VIII. Electric Utilities Load Management Activities**

Overall, electric utilities found that load management worked well, and did not report significant non-compliance with interruption orders.

Dakota Electric stated that it responded to calls for load management from its primary generator, Great River Energy. First, Residential Load Control started January 29 at 4PM and ran to 10 PM, reducing demand by about 5MW with load shave and dual fuel water heater programs. Great River Energy managed about 359MW in overall load reduction from these programs that day. Second, Great River Energy called for full load control on January 30 from 3PM to 9PM. Dakota Electric cut 51 MW, or 20% of their overall load, by contacting large industrial customers. Great River Energy and its affiliates saw a total Demand Response of 459 MW – a record for that company. Overall, Great River Energy saw a total of 3,112 MWh in reductions across the course of the event.

MISO declared an emergency on January 30<sup>th</sup>, starting at Step 1a at 3AM, triggering demand response, and Step 2a at 7AM. Step 2a expired at 1PM, and Step 1a ended at 11AM on January 31<sup>st</sup>. In addition to the usual emergency processes, large firm load implemented voluntary

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<sup>72</sup> Id., at 22.

<sup>73</sup> Xcel Energy August 19, 2019 Reply Comments at 4.

curtailments until 9PM on January 30<sup>th</sup>, and Xcel reduced load at its Company-owned and operated facilities.

Minnesota Power stated that it had a peak load of 1,720 MW at 6PM on January 29<sup>th</sup>. 235 MW of demand response deployed effectively. Dual fuel curtailments resulted in about 30-35 MW in load reduction. 200 MW of load reduction came from MP's industrial customers.

Otter Tail stated that they initiate direct contact by phone to large load customers to request reductions. They also undertake public appeals via broadcast media if requested by MISO.

The Department commented that the tariffs for Xcel and Otter Tail contemplate summer interruptions rather than winter. Only Minnesota Power had tariff language explicitly allowing interruption if system reliability required it in the opinion of the utility.

## **IX. Generation Availability**

Dakota Electric stated that Great River wind generation went off line due to excessive cold temperatures late evening on January 29<sup>th</sup> and returned on the morning of January 31<sup>st</sup>. Coal, gas, and solar saw no issues.

Xcel Energy stated that wind generation dropped from 1500 MW on January 28<sup>th</sup> to 150 MW on January 30<sup>th</sup>, picking back up to 580 MW on January 31<sup>st</sup>. Some of that variation was due to plants going offline due to cold, and some of that variation was due to reduced wind velocities producing suboptimal generation conditions. All Xcel Electric wind farms have cold-weather cut-offs at -22F, except Mower County, which cuts off at -13F. Xcel Energy stated that solar plants are affected by temperatures over 40C (104F), but not directly by cold.

Several of Xcel Energy's gas-based peaking units had difficulties at start-up due to frozen fuel valves.

Xcel also reported that its Black Dog (Burnsville), High Bridge (St. Paul), and Riverside (Minneapolis) natural gas plants were reduced to economic minimum generation levels for 3 hours January 30<sup>th</sup> due to a compressor station failure at the Northern Natural Gas (NNG) Farmington facility. This shutoff was voluntary on Xcel's part, and undertaken to maintain natural gas pressure for retail customers in the metro area. The Department requested additional info on this event and the NNG/Xcel contract. Xcel replied that they backed down these units both to maintain natural gas pressure and as a risk mitigation measure – had they continued at full capacity and then had to shut down entirely due to low gas pressures, these plants would have been offline for potentially longer than they were backed down. Instead, Xcel was able to return the plants to maximum load quickly once the compressor station returned to service. Xcel also noted that the three generating units at minimum output did not necessitate any purchase of replacement power – Xcel had adequate alternative resources online during the event to cover load, even with the reduction in power at those plants and at its wind facilities.

Xcel also commented that several facilities on non-firm gas contracts did not have gas but maintained production where appropriate with on-site fuel sources. Several other plants had gas supply but were disabled for a period due to frozen starters.

Minnesota Power had its Taconite Ridge Wind Farm stop generating due to cold temperatures. MP stated that there was no material effect on overall generation due to low wind conditions. MP's Bison wind facility did not shut down due to cold, but went from 450 MW to 0 MW production during the afternoon and evening of January 29<sup>th</sup> due to lack of wind, returning to service over the course of January 30<sup>th</sup>. Minnesota Power provided evidence that very little production was lost during the outage period in their territory from low temperature wind turbine shutdowns, because expected wind conditions were unfavorable for generation at their locations. A biomass generation facility was unavailable for most of the period due to a lack of natural gas delivery from the City of Duluth. One of two units of a natural gas facility was taken offline due to a mechanical issue related to the cold. Minnesota Power had no weather-related issues at coal plants, and hydroelectric and solar facilities operated as normal, albeit limited by clouds and snow in the case of solar.

Minnesota Power stated that its wind turbines at Bison and Taconite Ridge have cut-offs at -22F. The Oliver wind farms shut off at -4F for unit 1 and -22F at unit 2. Its solar generators are not guaranteed below -22F, but MP did not have any issues with solar generation at temperatures at or somewhat below -22F.

Otter Tail reported that several wind farms were offline due to extreme cold starting on January 30<sup>th</sup> and extending into the morning or later on January 31<sup>st</sup>. Its wind turbines at Ashtubula, Langdon, and MPWR all have shut off temperatures of -22F.

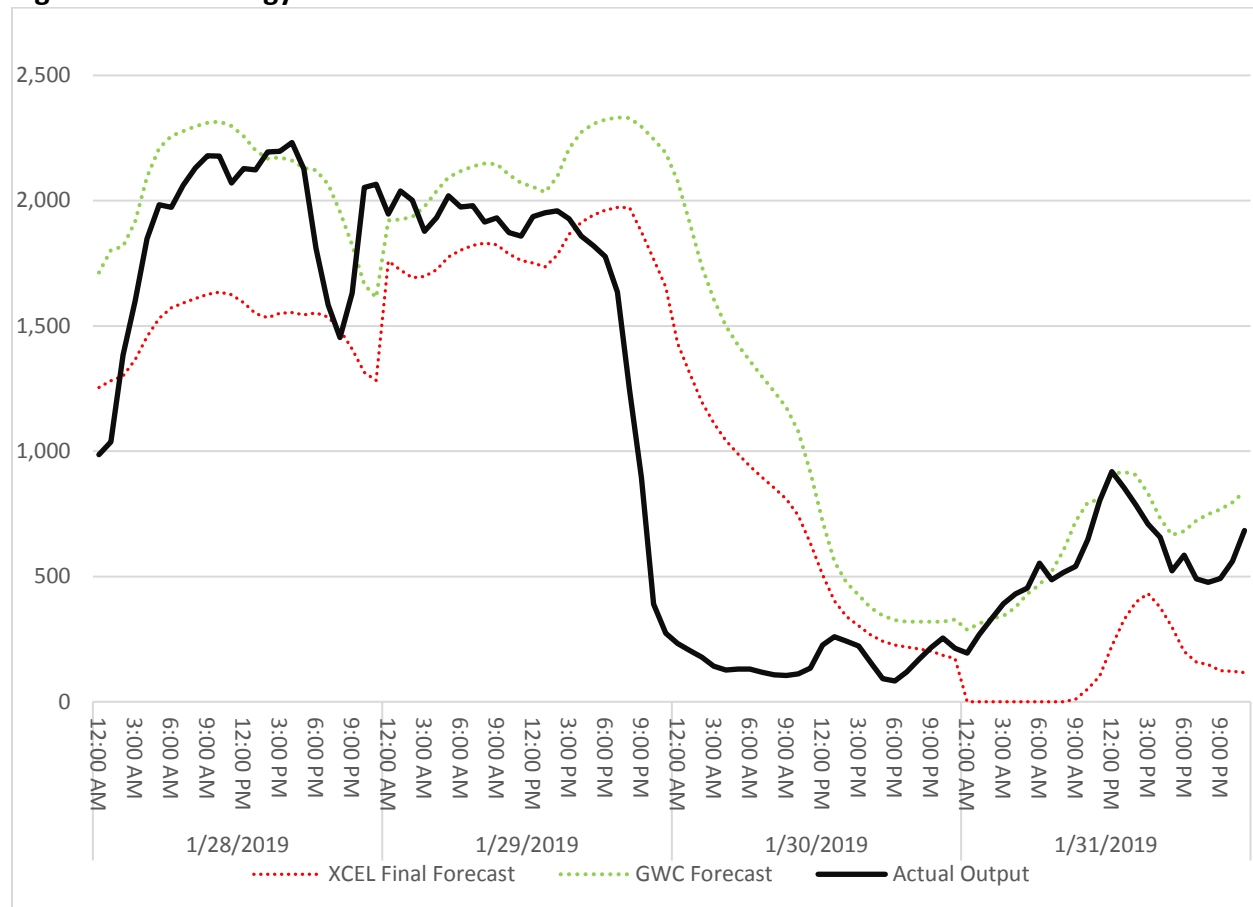
The Department noted that the NNG outage resulted in over 1000MW in capacity reduction over a 10 hour time period.<sup>74</sup> Overall, 25% of generation was unavailable during part of the event, well above the amount unavailable during prior cold-weather events. Wind forecasting was erratic with large over-forecasts for all three generating utilities.

The Department provided an analysis of variation between actual and forecast wind output for each of the three utilities that provided data. Department-created graphics<sup>75</sup> show that Otter Tail and MP both over-forecasted by over 150 MW on January 29<sup>th</sup>, with Otter Tail's biggest shortfall occurring earlier in the day than MP's shortfall. Xcel over-forecasted by about 1.4 GW on January 29<sup>th</sup> at about the same time that MP's wind fell offline.

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<sup>74</sup> In its June 28, 2019 Reply Comments at 5, Xcel Energy refuted this and stated the reduction in capacity was approximately 420 MW over a period of three hours.

<sup>75</sup> Department Comments May 20, 2019, pp. 13-14.

**Figure 1: Xcel Energy Forecast and Actual Generation from Wind - MWH**

Minnesota Power provided the wind forecasts and noted that the parameters it uses come from varying sources depending on the plant. Xcel also provided day ahead and actual production for its plants, used for Figure 1 (above). Otter Tail provided actual production for its small wind facilities.

## **X. Interstate Pipeline Issues' Impact on Utility Operations**

In its initial comments Xcel reported that three of its natural gas plants had been affected by Northern Natural Gas (NNG) Farmington compressor station outage, causing Xcel to back down its generation.<sup>76</sup> In its comments, the Department requested more information about the outage, its magnitude, terms of Xcel's contract with NNG, and whether Xcel was able to impose any penalties or receive any credits from NNG due to the outage. The Department also requested that all utilities provide a discussion in reply comments of whether interstate pipeline issues impacted operations during the cold weather event and what, if any, impact this had on rates or reliability.

In its reply comments Xcel clarified that it had voluntarily ramped down output at the three plants affected by the compressor station outage. This action reduced output by a total of about 420 MW for 3 hours, and no other plants were affected. Xcel stated that it chose to ramp

<sup>76</sup> Xcel Energy April 12, 2019 Comments at 2

down those units to help maintain gas pressure in the retail gas grid and to avoid a potential multi-hour process to restart these plants, which could have arisen if low pressure had led to a full gas outage.

Xcel stated that the contracts for those generators are firm contracts with reservation charge crediting in the event NNG is unable to meet the obligations of the firm contract. These credits were not invoked because the reduction to minimum economic production at the three plants was Xcel Energy's voluntary action, not required or forced by NNG's outage.

Xcel also stated in reply comments that it had adequate capacity without the three banked gas plants and did not undertake any purchased power contracts to replace the plants. Further, Xcel stated, "Other than the NNG Farmington Compressor Station issue discussed above – which had no negative impacts on rates or reliability – there were no other Interstate Pipeline issues that impacted our operations during the cold weather event."<sup>77</sup>

Otter Tail stated that pipeline issues had no operational impacts on them. Dakota Electric did not mention any issues. Minnesota Power did not provide reply comments.

CenterPoint, MERC, Great Plains, and GMG all stated that there were no interstate pipeline issues that affected their operations or reliability.

## **XI. How the Commission Could Help Convey Messages to the Public**

The utilities responded as follows to the Commission's request for information on how the Commission could help convey messages to the public during such a severe weather event.

Dakota Electric stated that Commission messages could reinforce or provide perspective on the messages being distributed by MISO.

Greater Minnesota Gas, CenterPoint, Otter Tail, and MERC believe that utilities are in the best position to convey messages. GMG thinks general messaging could be confusing to the public, since it might appear to be of an official nature and may not be universally applicable. MERC also believes blanket press releases may cause confusion and do more harm than good. Otter Tail has a detailed communications plan for load reduction, and provided an example of its communication for load reduction. CenterPoint also is concerned about confusion or anxiety caused by general messages, and argues that a Commission press release or other wide-ranging communication might be valuable if an issue affects all customers, but short of that thinks they are in the best position to communicate with their customers. MERC states that in cases of curtailment, contact should be targeted to specific circumstances of the individual customers affected rather than general communications.

Minnesota Power suggested that this issue could warrant a technical conference to have appropriate communications and operations personnel address the best approaches. MP uses social media platforms and an app to notify its customers regarding outages, as an example of a possible approach.

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<sup>77</sup> Xcel Energy June 28, 2019 Reply Comments at 6.

Great Plains had no specific suggestions on Commission communications, other than to agree that utility-to-Commission communication is important and to reiterate that it will inform the Commission of any operational or weather event in its service territory.

Xcel believes that their general appeal had an impact on natural gas usage, and is open to providing any information the Commission needs that might be helpful in communications.

The Department noted that it is critical for utilities to communicate with the Commission and Department during events so both state agencies can provide accurate and timely updates when the media contacts them. Further it is critical for utilities to keep the agencies informed of utility specific contact information, since referring customers who contact the agencies to the utilities is likely to result in more accurate and up-to-date information being provided to the public.

MERC agrees and will take steps to continually update the Commission and Department regarding developments during such events. CenterPoint agrees to ensure that all state agencies that could receive calls during peak events have CenterPoint's contact information so agency reps can encourage customers to contact CenterPoint directly. The Department also stated that communication and engagement from the Commission seems appropriate as a supplement to utility-provided information in cases of 'macro' or statewide issues. The Department cited the TransCanada explosion during the 2013-2014 heating season as an example. CenterPoint questioned whether even the TransCanada explosion rose to this level, since it didn't have statewide impact.

The Department stated, "The Commission may wish to consider convening a workgroup of utilities, state agencies, and other interested parties to create a framework governing communication to the public during severe weather and other high consequence events."<sup>78</sup>

CenterPoint also has no objection to the Commission convening a workgroup of stakeholders and other interested parties to create a framework governing communication to the public during severe weather and other high consequence events, and CenterPoint would participate if the Commission chooses to convene one.<sup>79</sup>

## **XII. Lessons Learned and Steps to be Taken to Prepare for Next Event**

### **A. Xcel Gas**

Xcel Gas found that its coordinated electric-natural gas operational planning leading up to and throughout the event was very valuable and resulted in positive outcomes. It allowed natural gas operations to maintain their focus on the gas system while electric operations secured

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<sup>78</sup> Department August 9, 2019 Response Comments at 21.

<sup>79</sup> CenterPoint Energy August 19, 2019 Reply Comments at 5-6

lodging, space heating, and other resources for impacted customers – and staffed the Princeton area command center.

Xcel Gas learned that it needed to update its distribution models to model its system under more severe temperature constraints. As a result of the updated modeling, Xcel Gas has also identified the nine system reinforcement projects in seven communities discussed above under Reinforcement Projects, and stated that it may identify additional projects for 2019 as it continues to remodel its system. Xcel Gas has also taken steps to clarify the communications generated by its automated customer curtailment communications system, so that interruptible Transportation customers receive clearer instructions during curtailment events.

## **B. CenterPoint Energy**

CenterPoint Energy learned that its design day model and peak day forecast were sufficient and its distribution system planning allowed it to identify and monitor problem areas and pre-emptively place CNG stations in potential problem areas. CenterPoint Energy stated that it will continue to model system flows and investigate potential problems using pressure recorders so that it can prioritize necessary system upgrades and minimize potential pressure issues on its system.

CenterPoint Energy also found that:

Communication among all Company departments and also with the interstate pipelines and suppliers is imperative because many factors outside of the Company's control can affect system performance. The Company will continue to utilize the emergency planning organization it utilized during these events.

CenterPoint Energy will continue to review the unauthorized usage that occurred during the curtailments and it will assess whether the interruptible customers that did not interrupt can satisfy the tariff conditions. CenterPoint Energy stated that customers who cannot interrupt will be moved to firm classes so that CenterPoint Energy can adequately plan for their usage during peak-day events.

CenterPoint Energy did experience excess flow valve-related issues associated with some newer construction and after investigating the cause has attributed the issues to the effects of moisture trapped within the piping systems. CenterPoint Energy explained that "Moisture in the system can cause EFVs to false trip or freeze, both of which stop the flow of gas within the service line." According to CenterPoint Energy, "Efforts are underway to institute procedures, equipment and training to attempt to eliminate moisture intrusion into pipelines at the time of pipeline installation."

## **C. MERC**

As a result of lessons learned, MERC has identified the following steps to help prepare for the next severe weather event:

1. When severe cold weather is forecasted, MERC intends to establish a meeting schedule with key employees from operations, engineering, and gas supply to provide updates and to regularly monitor and respond to any service-related issues. In the latest severe cold weather event, MERC began a meeting schedule after the event had begun. MERC believes being proactive will allow MERC personnel to be better prepared for the pending conditions, and allow for more detailed communication with MERC's customers.
2. Continue to utilize advanced ad hoc messages to communicate with customers, checking in with customers to ensure they are prepared for both the cold weather and potential curtailment, and that they have properly working back-up systems in the event a curtailment is called. This additional line of communication will not only assist customers in being prepared for pending severe weather, but can also give MERC insight to areas or specific customers where curtailments may be an issue.
3. Expand current pressure check points to include new areas, developments, and recently replaced piping. Some areas of MERC's system where pressure had historically been an issue have been resolved through upgrades; but as load increases/changes new potential problem areas may be created.
4. Continue training, specifically of new employees and leadership, and continue to develop a more thorough understanding of pressure monitoring.

MERC stated that it will also investigate the following opportunities to better prepare before severe weather events and to ensure continuous and reliable service during such events:

1. With the implementation of Automatic Metering Infrastructure ("AMI"), MERC will evaluate what usage data would be available in the future during a curtailment, and how we can use that data to better understand customers that did or did not curtail. If AMI has the ability to more readily identify customers via real time that were unable/unwilling to curtail, that information may be useful to MERC to continue outreach to those customers to help understand the challenges they are facing as well as give MERC Operations a better understanding of areas that may need continued monitoring due to customers not fully complying with MERC's curtailment request.
2. Additionally, MERC needs to further investigate the Excess Flow Valve ("EFV") trips that occurred during the cold weather event. It is important that MERC understands why these trips occurred, and if they were related to the EFVs themselves, or associated equipment, either inside or outside of the customers' premise. These considerations have an impact on the effectiveness of EFVs. Gaining knowledge and understanding of the EFV trips could either assist MERC in their installation procedures to limit these instances in the future or give MERC valuable knowledge of where instances like this may occur in the future to be better prepared to react during a severe weather event.

#### D. Great Plains

Great Plains did not report any lessons learned and stated that it “did not experience any issues with excess flow valves during the severe weather event.”

#### E. GMG

GMG was generally satisfied with its and its system’s performance, but the situation provided and/or confirmed information about various aspects of GMG’s system, such as:

- GMG did not experience any excess flow valve failures, however, EFVs can fail when a line operates at ten pounds of pressure or less and other utilities experienced EFV failures; thus, GMG will be alert to that potential during future weather events
- Four of GMG’s customers experienced brief service interruptions due to the failure of a regulator or meter. Due to GMG supplementing staff and pre-stocking technician vehicles, GMG staff was able to promptly respond and address the failures in a timely manner. GMG will continue with similar resource planning in the face of future extreme weather.
- GMG identified areas in its system that need reinforcement and will undertake necessary reinforcement activities to reduce risk during future extreme weather.
- GMG believes its philosophy regarding its modeling and the level of its reserve margin was validated, as even though GMG’s actual throughput exceeded its design day projections, its reserve margin was still sufficient to protect its customers and assure sufficient firm gas supply.

GMG stated that, “While GMG anticipates that each utility will use what it learned from the experience of itself and others to enhance its internal processes, GMG does not believe that the Commission needs to or should take any steps to require changes in the utilities’ practices.”

#### F. Dakota Electric

Dakota Electric found that load control worked well and is an important asset. Dakota stated that their system is planned and designed to meet requirements under extreme conditions and found that it performed as expected January 28 through January 31.

#### G. Xcel Electric

Xcel Energy found that internal coordination between gas and electric personnel worked well. Electric personnel assisted gas personnel in relocating customers affected by the gas issues in the Xcel Gas territory. Xcel also reviewed and refined their gas nomination process to better optimize gas supply contracts for electric generation.

Xcel undertook a cold weather survey of plants which will help better understand plant performance in extreme cold. Xcel stated that this weather event provides a good example of a circumstance where there may be benefits of self-committing units rather than responding only to MISO instructions. Based on information from the survey and operating experience, Xcel may take early action to commit units ahead of extreme cold to mitigate start-up failure risk. Xcel did find that the electric outages observed during the event were typical for the season.

#### **H. Otter Tail Power**

Otter Tail found that nothing occurred during the cold weather event that was out of the ordinary in their view. Otter Tail suggested that the Commission reach out to MISO to get on its Distribution List for severe weather notices.

#### **I. Minnesota Power**

Minnesota Power observed that the cold weather event was the first Max Gen Event step 2 a-b/NERC EEA 2 event called in MISO's North area in over a decade. Minnesota Power took advantage of the event to learn how MISO uses their Communication System (MCS) in practice and provided updated training to their system operators for emergency events. Minnesota Power also is providing customer education on MISO emergency steps and communications they would send to customers, and updated their internal procedures for emergency events. Further, Minnesota Power is reviewing its emergency procedures to make them easier for System Operators to follow. On the customer side, Minnesota Power had an average number of trouble calls and no extraordinary outages.

#### **J. Department**

The Department stated that it appears that the utilities have made, or plan to implement, various process improvements because of the severe weather event. The Department recommended that the Commission require the utilities to report by November 1, 2019 on their progress in implementing the various process improvements to address severe weather events.

### **XIII. Staff Analysis**

Staff believes the Commission may want to ask for confirmation, and any updated information the utilities have, about the need for and completion of the natural gas reinforcement projects that were identified and discussed at the February 28 planning meeting and in the comments in this docket.

Because the 2019-2020 heating season will start relatively soon, the proposed November 1, 2019 start date for the proposed revisions to the utility curtailment and related tariffs would be difficult if not impossible to implement on that date. If the Commission is interested in requiring the utilities to adopt any of the tariff changes discussed in the briefing paper it would be more realistic to consider a mid-Winter or perhaps a May 1, 2020 date instead as a target for the effective date.

The Commission may want to consider whether a May 1, 2020 compliance filing from the natural gas utilities would be helpful that indicates whether any new reinforcement projects have been identified as result of the 2019-2020 heating season that need to be addressed in 2020 or if there are any other unusual curtailment related issues that need to be addressed or process improvements that could be reported on by the utilities.

Otherwise, the parties have various proposals for curtailment-related compliance reporting and monitoring that the Commission will need to consider if it requires the natural gas utilities to revise their tariffs for curtailments and related events.

Staff does not have a recommendation on whether a technical conference or stakeholder workgroup on developing a framework for communication with the public during severe weather and other high consequence events would be useful.

There were several useful lessons learned but no recommendations for the electric utilities.

## **XIV. Decision Alternatives**

### **Natural Gas Reinforcement Projects**

1. Require Xcel Gas and CenterPoint to file information on their reinforcement projects completed this year within 10 days of the Commission's Order.
2. Clarify that Xcel Gas' proposed reinforcement projects are not eligible for rider recovery given that the system was not adequately constructed.

### **Natural Gas Utility Tariff Changes**

#### **Curtailment Penalties**

##### **CenterPoint Energy**

3. Require CenterPoint to increase its penalty for unauthorized gas usage to \$5 per therm. [Department] Or
4. Allow CenterPoint to increase its penalty amounts to charge non-compliant customers \$3 per therm or \$6 per therm, depending on whether it is the first or second occurrence in the heating season, in addition to the highest incremental supply cost for the day. [CenterPoint]

##### **All Natural Gas Utilities**

5. Require all gas utilities to implement a two-stage penalty structure for unauthorized use. For the first instance of unauthorized use, the Department recommends that the penalty be set at \$5 per therm plus the highest incremental replacement cost for gas on the day and then increased to \$10 per therm plus the highest incremental replacement cost for gas on the day for each subsequent instance of unauthorized use during the gas year (July to June), with the next step being considering removing the non-compliant customer to firm service. [Department] Or
6. Require the natural gas interruptible tariffs provide for a doubling of the per-therm penalty for every subsequent failure to curtail. [OAG]

**Interruptible Customer Contact Information & Functionality of Back-up Equipment**

7. Require the following proposed tariff language for inclusion in the interruptible schedules for natural gas utilities: [Department]
  - Customers must maintain three (3) current contacts to receive notice of curtailment. If the customer does not have three qualified contacts, the customer shall provide an annual attestation to the Company that it is unable to have three qualified contacts and the customer understands they are obligated to curtail service when requested. The Company will make an annual request that customers confirm that contact information is current.
  - On an annual basis, the customer shall provide an annual attestation to the Company that it has fully functioning back-up equipment and/or the ability to curtail natural gas use when requested. The operational and functionality of the back-up equipment is the sole responsibility of the interruptible customer. Failure to maintain this equipment or failure to curtail represents a breach of the terms of interruptible service and may result in termination of the agreement.

**Xcel, MERC & CenterPoint Proposed Tariff Changes**

8. Approve Xcel Gas' proposed tariff changes included in its June 28, 2019 reply comments, except to the extent they conflict with tariff changes required above (and below). [Xcel Gas, Department, as modified by Staff]
9. Approve MERC's proposed tariff changes included in its July 1, 2019 reply comments, except to the extent they conflict with tariff changes required above (and below). [MERC, Department, as modified by Staff]
10. Approve CenterPoint's proposed tariff changes submitted September 12, 2019, except to the extent they conflict with tariff changes required above (and below). [CenterPoint, Department, as modified by Staff]

**Curtailment-related Compliance Reporting**

11. Require natural gas utilities, when a customer fails to curtail twice, or a single non-compliant event is significant, to fully analyze the circumstances around the non-compliance by the interruptible customer. The utilities shall file these analyses annually with the Commission in their September 1 AAA report filings. [Xcel] Or
12. Require natural gas utilities, when a customer fails to curtail twice, or a single non-compliant event is significant, to fully analyze the circumstances around the non-compliance by the interruptible customer and to report, for each repeated or significant noncompliance event, either (1) the costs and requirements to move the customer to firm service or (2) a justification for not completing this analysis and a description of what the utility or customer has done or is doing to prevent further non-compliance.

The utilities shall file these analyses annually with the Commission on May 1 [CenterPoint] or July 1 [Department]. Or

13. Do not add additional reporting requirements at this time, but if more information is desired on interruptible customer compliance with curtailments than what is already required to be reported in the annual AAA reports, require that specific requests for additional information on interruptible customer compliance with curtailments be made a part of the AAA process. [MERC] Or

14. Order CenterPoint, Xcel Energy, and MERC to

- a. Document their efforts to ensure the level of non-compliance with curtailment requests during this event does not happen in the future. Order CenterPoint, Xcel Energy, and MERC to make compliance filings once they have implemented their remediation efforts. These compliance filings should verify that all of the customers that failed to comply with their curtailments have taken whatever steps are necessary to make certain that they will be able to fully comply in the future; [OAG]

and

- b. Report on any future non-compliance by these customers. These reports should either certify that the Companies have removed the offending customer from interruptible service or justify the decision not to do so. [OAG]

and

- c. With respect to this information, the OAG recommended the Commission

- i. Consider non-compliance when making revenue apportionment decisions regarding interruptible customers in future rate proceedings; [OAG]

and

- ii. Consider ordering the Companies in future rate proceedings to increase the financial penalties for interruptible customers who shirk their curtailment responsibilities. [OAG]

**Compliance Filings – New Tariff Language**

15. If any tariff changes are required above, require the affected utilities to file compliance filings with red-lined tariffs. [Staff alternative]

**Other**

16. Require all of the electric and natural gas utilities to report by November 1, 2019 on their progress in implementing various process improvements to address severe weather events. [DOC]
17. Convene a stakeholder workgroup of utilities, state agencies, and other interested parties to create a framework governing communication to the public during severe weather and other high consequence events. [DOC]