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April 9, 2021

**—Via Electronic Filing and U.S. Mail—**

Steven M. Kahl, Executive Director  
North Dakota Public Service Commission  
State Capitol Building, Dept. 408  
600 East Boulevard  
Bismarck, ND 58505-0480

RE: EXTREME COLD WEATHER EVENT INVESTIGATION  
CASE NOS. PU-21-102 (NATURAL GAS) AND PU-21-105 (ELECTRIC)

Dear Mr. Kahl:

Northern States Power Company, doing business as Xcel Energy, submits to the North Dakota Public Service Commission this report in response to the March 8, 2021 request for information regarding the extreme cold weather events of February 5-18, 2021.

Portions of this document contain trade secret information. In accordance with Section 69-02-09-02 of the North Dakota Administrative Code, an Application for Trade Secret Protection is being provided concurrently. A copy of the trade secret version of this report will be provided in a sealed envelope.

If you have any questions, please feel free to contact me at (701) 371-5256.

Sincerely,

DAVID H. SEDERQUIST  
SENIOR REGULATORY CONSULTANT

Enclosures

STATE OF NORTH DAKOTA  
BEFORE THE  
NORTH DAKOTA PUBLIC SERVICE COMMISSION

Julie Fedorchak  
Randy Christmann  
Brian Kroshus

Chair  
Commissioner  
Commissioner

IN THE MATTER OF THE NORTH  
DAKOTA PUBLIC SERVICE COMMISSION'S  
INQUIRY INTO THE FEBRUARY EXTREME  
COLD WEATHER EVENT

CASE NO. PU-21-102 (NATURAL GAS)  
CASE No. PU-21-105 (ELECTRIC)

**REPORT**

## INTRODUCTION

Northern States Power Company, doing business as Xcel Energy, submits to the North Dakota Public Service Commission (Commission) this Report on the February Extreme Weather Event experienced mid-February 2021 and the resulting impacts on the Company's electric and natural gas operations and our customers.

### I. BACKGROUND

Extreme and prolonged cold in the region and across many other parts of the country caused a substantial increase in demand for natural gas in February. When the increase in demand was combined with unprecedented decreases in the availability of the country's natural gas supply, it caused a dramatic short-term increase in natural gas spot market prices across much of the United States. Natural gas prices at the beginning of February—and even in the days preceding February 12—were below \$3 per dekatherm (Dth) and by Friday, February 12, 2021, the market for natural gas was trading at about 100 times that price.

During this period of prolonged cold temperatures, the Company's foremost focus was ensuring the safe and reliable service our customers expect and need in their homes and businesses. The actions the Company took leading up to, and during, the February Extreme Weather Event were successful in maintaining uninterrupted gas service for our firm customers and uninterrupted service to our electric customers. Operational and strategic decisions were essential to meeting our customers' needs during this period of extreme cold and reflect the Company's commitment to reliability and safety, which are our top priorities. While we were able to provide

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reliable service to our customers, we recognize the importance of a post-event review of this unprecedented spike in natural gas prices.

Although our system held up well, the price for gas skyrocketed due to supply constraints, and we incurred approximately \$248 million (\$32 million attributable to ND) in incremental costs for natural gas purchases over the 5-day period of February 13-17. Under the existing regulatory construct, the Company would start to recover these costs through the Cost of Gas (COG) Rider True-up mechanism on September 1, 2021 and would recover the costs over 12 months. However, given the magnitude of these costs, the Company proposes to mitigate the bill impacts from this event by extending the normal recovery timeframe for these costs to two years, and smoothing the impacts of increases by implementing a True-up rate that is lower in the winter season when natural gas usage – and bills - are highest.

On March 3, 2021 the Commission initiated separate inquiries into the impact of the February Extreme Weather Event on the electric and natural gas operations of investor-owned utilities in North Dakota, and on March 8, 2021 NDPSC staff issued a set of specific information requests. This Report first provides an overall report of the February Extreme Weather Event and then addresses these information requests directly.

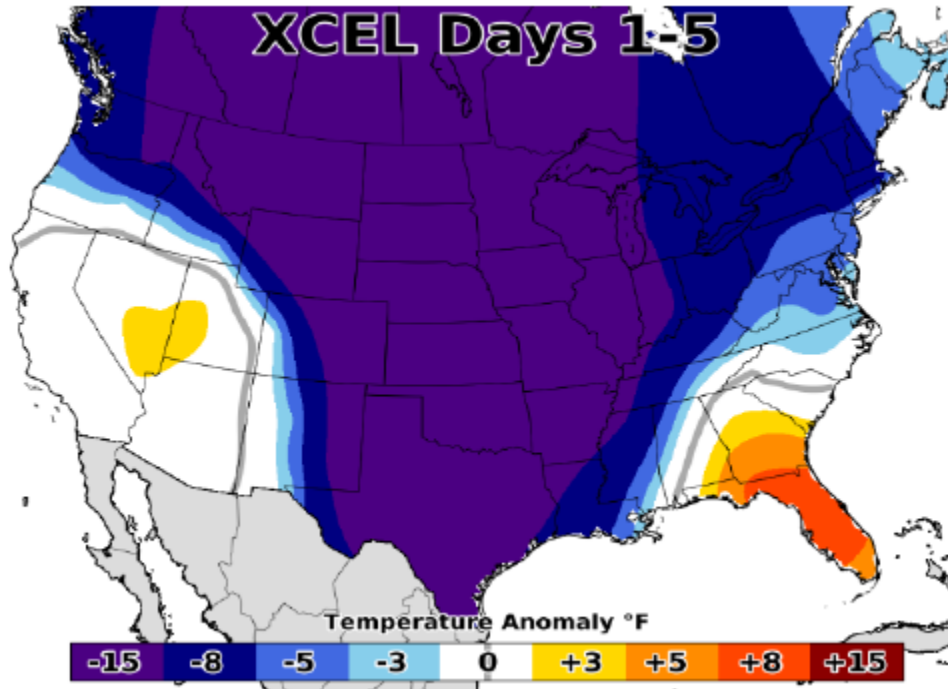
### **II. FEBRUARY EXTREME WEATHER EVENT AND ITS EFFECT ON NATURAL GAS PRICES**

In this Section, we discuss the overall scope of the February Extreme Weather Event, and how it affected the broader market for natural gas prices in mid-February 2021.

The February Extreme Weather Event was remarkable both in the duration of the extreme cold weather in the region and its coverage across much of the United States. On February 5, 2021, North Dakota and the rest of the upper Midwest started to experience unusually cold temperatures. The cold lasted approximately ten days.

While the cold started in the upper Midwest on February 5, it did not spread to the southwestern United States until several days later. The map below shows the Company's five-day weather forecast as of February 11, 2021. It shows the expectation that temperatures from February 11-15 across the mid-continent to be an average of 15 degrees or more below normal temperatures.

Figure 1: Forecast for Mid-Continent for February 11-15, 2021 Period

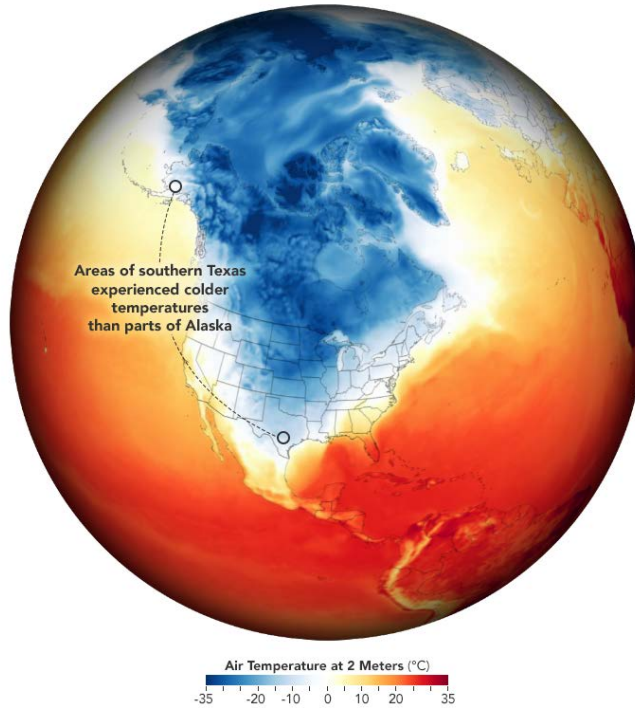


As forecasted, actual temperatures were well below normal across the mid-continent as can be seen in the figure below.

## Figure 2: Air Temperatures on February 15, 2021<sup>1</sup>

### A Deep Cold

During the second week of February, cold air descended from the Arctic and covered much of North America with temperatures below freezing.

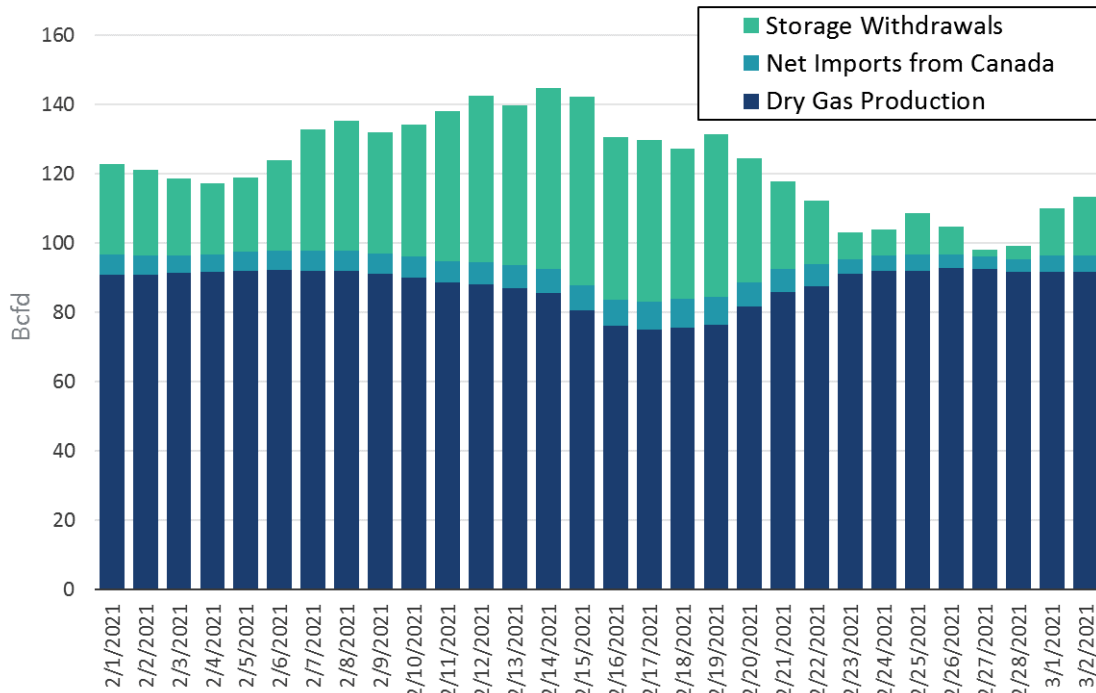


The extent of the cold caused significant increases in natural gas demand in many places nationally, including in our NSPM states of Minnesota and North Dakota. The extent of the cold caused significant increases in natural gas demand in many places nationally, including North Dakota. Ultimately, the cold in the southwestern United States—where temperatures abnormally fell below the freezing point—resulted in “freeze-offs” of many gas production and gathering facilities (i.e., water and other liquids falling out of the natural gas stream and freezing thereby blocking the flow of gas). The substantial increase in demand for natural gas across the country, combined with the expectation of a drop off in supply, caused a dramatic short-term increase in natural gas prices across much of the central United States on the Friday before Presidents Day weekend, February 12, 2021.

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<sup>1</sup> Kathryn Hansen, NASA Earth Observatory, *Extreme Winter Weather Causes U.S. Blackouts*, proving Goddard Earth Observing System data from the Global Modeling and Assimilation Office at NASA, <https://earthobservatory.nasa.gov/images/147941/extreme-winter-weather-causes-us-blackouts> (Accessed April 6, 2021).

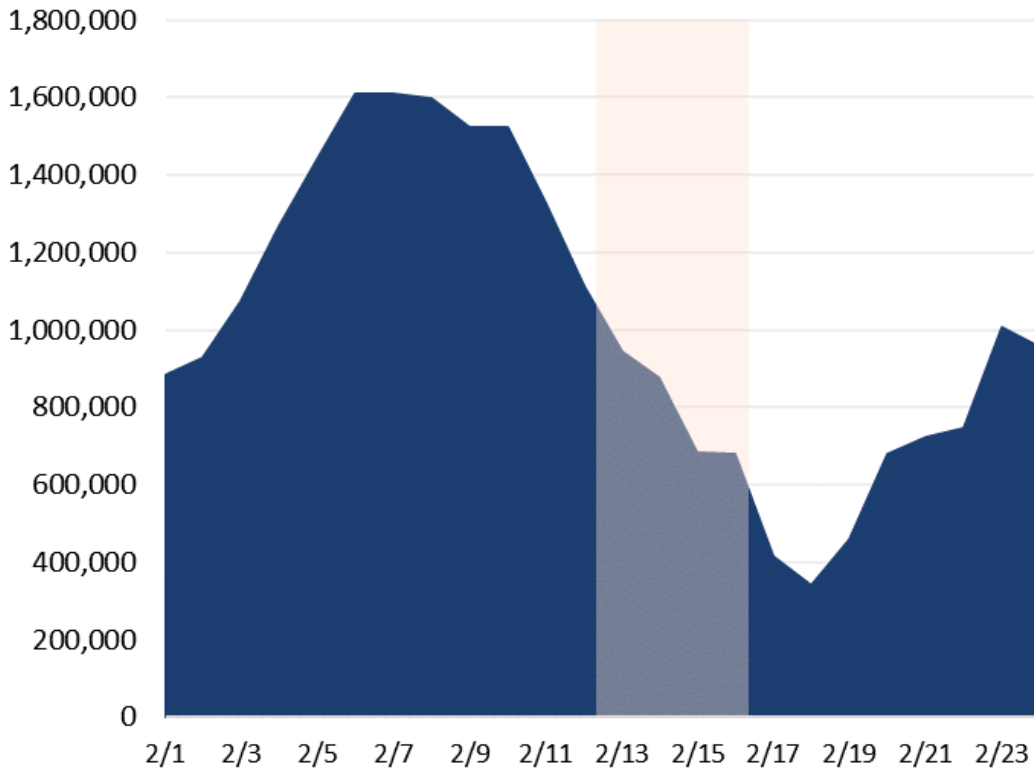
Figure 3: U.S. Gas Supply Sources February 1, 2021 to March 2, 2021<sup>2</sup>



As can be seen in the figure above, over the February Extreme Weather Event, the overall supply of natural gas from production in the United States declined from approximately 90 billion cubic feet/day (Bcfd) to approximately 75 Bcfd. This decline in production was even more pronounced on the Northern Natural Gas (Northern or NNG) system, where scheduled receipts at the Demarcation (or Demarc) Hub declined by approximately 430,000 Dth/day (-39%) from February 12 through February 16, as can be seen the Figure 4 below.

<sup>2</sup> Source: S&P Global Platts Gas Daily Market Fundamentals Data.

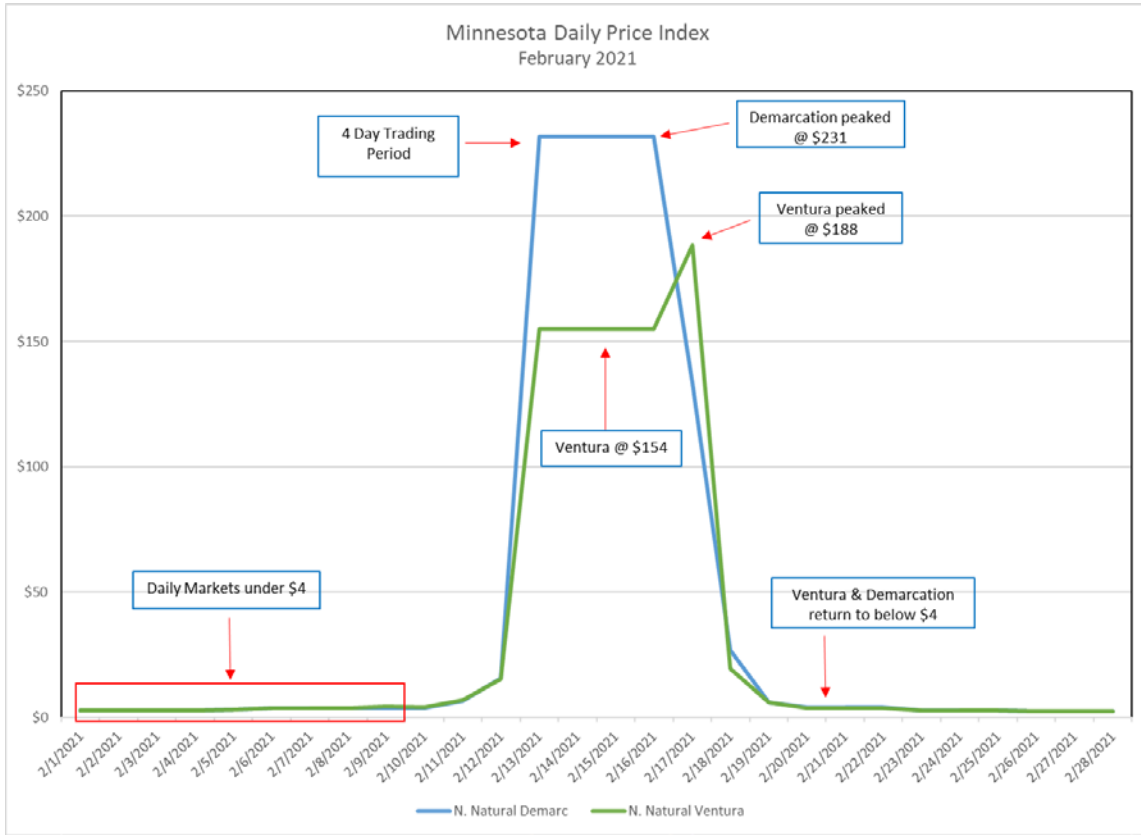
Figure 4: Scheduled Delivery (Dth/Day) at Demarc<sup>3</sup>



These price increases resulting from this drop in supply played out at several market pricing locations where the Company purchases natural gas for its customers and where large quantities of gas supply are traded and aggregated for delivery to end-users by the interstate pipeline network. These market hubs provide valuable access to multiple sellers of gas, but also require purchasers of gas to compete against one another when supply is scarce. The fact that this confluence of increased demand and reduced supply took place over a holiday weekend is particularly relevant here. Natural gas trading is limited on the weekends (e.g., February 13 and 14) and holidays, including Presidents Day (February 15). Therefore, on Friday, February 12, 2021, purchasers of natural gas were competing against one another to supply their customers' natural gas needs for the four-day period from Saturday, February 13 through Tuesday, February 16. The Company purchases the majority of its natural gas at the Ventura and Demarcation Hubs, and the extreme price volatility experienced at these hubs over Presidents Day weekend and the following Tuesday, February 16, is demonstrated in the figure below.

<sup>3</sup> Sources/Notes: Northern Natural Gas Pipeline EBB. The chart shows the total deliveries into the Field of Demarc Allocation Group (Group 831).

Figure 5: Natural Gas Index Prices at Regional Hubs for February 2021



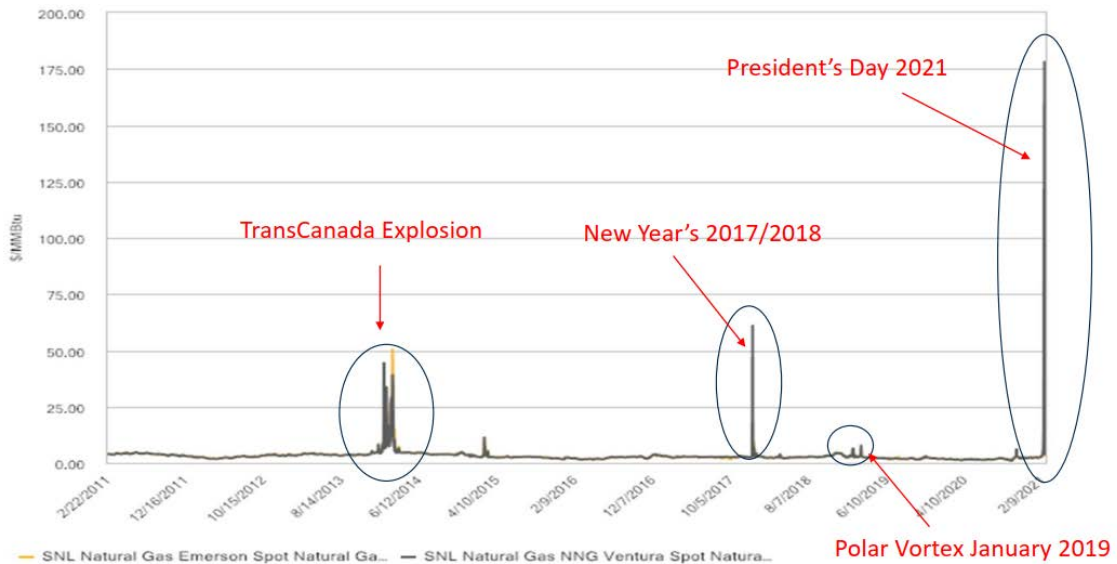
The prices experienced on February 12, 2021 and February 16, 2021 were extraordinary, especially considering the previous long-term stability in natural gas prices and the relative stability from February 5 through 11, 2021, despite the prolonged cold in the upper Midwest. Table 1 below shows the historical published index price (daily midpoint of reported natural gas purchase prices) at the Demarcation or Demarc (in Kansas) and Ventura (in Iowa) Hubs over the last ten years compared to the index prices in mid-February.

Table 1: Historical Daily Published Midpoint Price

	Demarc Daily Mid-Point		Ventura Daily Mid-Point	
	2011-2020	2021	2011-2020	2021
6-Feb	\$ 6.04	\$ 3.78	\$ 6.88	\$ 3.85
7-Feb	\$ 3.44	\$ 3.78	\$ 3.47	\$ 3.85
8-Feb	\$ 3.75	\$ 3.78	\$ 3.73	\$ 3.85
9-Feb	\$ 3.67	\$ 3.72	\$ 3.64	\$ 4.20
10-Feb	\$ 3.64	\$ 3.86	\$ 3.58	\$ 4.06
11-Feb	\$ 3.60	\$ 6.61	\$ 4.18	\$ 6.91
12-Feb	\$ 3.33	\$ 15.68	\$ 3.34	\$ 15.42
13-Feb	\$ 3.10	\$ 231.67	\$ 3.25	\$ 154.91
14-Feb	\$ 3.03	\$ 231.67	\$ 3.30	\$ 154.91
15-Feb	\$ 3.03	\$ 231.67	\$ 3.21	\$ 154.91
16-Feb	\$ 3.02	\$ 231.67	\$ 3.20	\$ 154.91
17-Feb	\$ 2.97	\$ 133.64	\$ 3.16	\$ 188.32
18-Feb	\$ 3.10	\$ 26.95	\$ 3.33	\$ 19.46

As demonstrated in the figure below, natural gas prices have generally been stable over the past ten years, with the exception of one instance of supply decline (i.e., the TransCanada Explosion in 2014) or a few periods of extreme cold (e.g., New Year’s weekend in 2017-18), none of which rose nearly to the magnitude of the prices around Presidents Day weekend of this year.

Figure 6: Ten Year Historical Natural Gas Spot Prices



### **III. OPERATIONAL PREPAREDNESS**

Planning for a severe weather event requires work not only during and immediately before the event, but also well before it, to ensure the Company maintains reliable service. Below, we discuss how the Company prepared for the February Extreme Weather Event both prior to this past heating season and during it to maintain both gas and electrical system reliability.

#### *1. Operational Preparedness by NSPM Gas Operations*

Annually, outside of the heating season, the Company performs long-term system planning for the Company's transmission and distribution pipelines for its service regions. The Company plan is updated to include changes in operating conditions along with forecasted customer growth on the system. The capacity planning process evaluates increased demand by modeling potential system constraints at times of peak capacity needs and analyzing potential operational solutions to provide reliable service to our firm customers. Based on the results of these system modeling efforts, the Company determines which areas of the system are likely to experience low pressure and develops mitigation measures, both short- and long-term, such as bypassing regulator stations at certain temperatures, siting temporary compressed natural gas facilities or designing and making permanent system modifications.

During the heating season, the Company's meteorologists routinely monitor changes in the weather to identify potential severe weather events that could impact our system. Leading up to the February Extreme Weather Event, our meteorologists noted that the temperature forecast covered greater portions of the mid-continent as the event grew closer in time, and they issued an Extreme Cold Alert on February 4, 2021. These alerts continued through February 16, 2021. This alert set in motion multi-disciplinary actions across the Company: in preparation for Winter Storm Uri, Gas Control initiated and led daily discussions with all gas teams, including Operations, Planning and Engineering.

Leading up to the storm, NSPM's Gas Operations area performed an extensive amount of preparation to ensure our customers and employees were not put at risk. Enhanced inspection and maintenance were performed at key stations across our system prior to cold weather events. NSPM's Gas Operations, Gas Control, and Engineering departments met to align optimum staging locations for employees positioning them to quickly react and adjust equipment as needed. The Company also increased staffing for monitoring the gas system, and staffed specific regulator stations and control equipment in vulnerable areas. The Company also opened redundant supply paths to ensure maximum deliverability on its system. Operating processes and procedures were reviewed regularly with the employees to ensure customer and employee safety was at the core of our work throughout the event. Several CNG

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(compressed natural gas) mobile units were available at locations identified by the planning process described above in the event we encountered an unexpected need for additional pressure on our system. Fortunately, they were not needed. Additionally, the Company identified the need to curtail interruptible gas customers, and as described in response to the Commission's data requests.

Based on this operational planning, our Firm Service customers did not experience any disruption from system capacity or design throughout the event. Suppliers were able to deliver for us the gas we requested. Investments and reinforcements made to our system over the last several years provided reliable service to the communities we serve. In addition, we received positive feedback from customers throughout the event as our front-line employees responded to customer needs.

### *2. Operational Preparedness by NSPM Electric Operations*

Annually, the Company prepares for winter electric operations by testing those generators capable of using fuel oil, under both cold weather and moderate weather conditions. The Company completed this testing of nearly all oil-fired units by the end of January; the only units not tested were unavailable due to outage. The Company also assessed firm gas transportation requirements for generation and made plans to utilize transportation for the Riverside plant while on planned outage to help serve peak LDC loads if needed.

The Company's Electric Operations began preparing specifically for the February Extreme Weather Event in early February, when the Company's meteorologists forecasted the duration and strength of the extreme cold. King and Sherco 2 generating units were offered to the MISO market with a must-run commitment status beginning February 6, 2021.<sup>4</sup> To mitigate the risk of start-up failure, the High Bridge, Black Dog, and Mankato Energy Center natural gas-fired plants also were offered to MISO as must-run beginning February 7, 2021. Additionally, the Company's peaking power plants were staffed around the clock beginning February 6, 2021 to be ready to go online quickly, and units were started early, during the warmer parts of the day, if plant staff expressed any concerns about extreme cold temperatures during their scheduled online time.

As there was some uncertainty around the availability of natural gas supply, the Company planned to run most dual-fuel capable resources on fuel oil. However, the Company's ability to offer these units to the MISO market was limited by the necessity of refilling the onsite fuel oil tanks. Where fuel oil stocks were high, such as at the Company's Inver Hills Peaking plant, the Company made the plant readily available to MISO. To optimize the fuel oil inventories and maximize flexibility of

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<sup>4</sup> This is consistent with our seasonal Unit Commitment Plan, in which we noted our need to flexibly implement the plan in certain circumstances.

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other oil-capable units to the MISO market, the Company offered these units with daily energy limits and limited economic availability to peak hours, to maximize the units' availability over the entire cold period. The Company notified MISO when fuel oil inventories were low, communicating how current-day operations would affect the next-day availability of those units.

The Company's ability to successfully manage this event is attributable to advanced planning, the commitment and professionalism of personnel working through challenging conditions to maintain availability of our generation, transmission, and distribution facilities, and the diversity of our generation resource mix. The nuclear and coal units provided a stable base of generation, and renewable resources generated even over the coldest period of the event. Dual-fuel peaking power plants provided flexibility and supplemental energy during morning and evening peak load periods, while simultaneously mitigating exposure for our electric customers to high natural gas prices. The Company maintained close communication and coordination between the Power Operations, Gas Supply, and Energy Supply teams to share changing system conditions, fuel supply and pricing updates, and unit availability and operations. This collaboration was pivotal in maintaining situational awareness, providing MISO with best information, and maximizing the operations of the Company's fleet.

Our electric customers did not experience any disruption from system capacity throughout the event.

### **IV. ANTICIPATED CUSTOMER IMPACT AND RECOVERY MITIGATION OPTIONS**

The February Extreme Weather Event had an estimated \$247 million impact on purchased gas expense, or \$32.5 million for North Dakota gas customers. The Company recognizes this is a significant increase in costs to be included in our annual COG True-up filed September 1, 2021. We discuss the customer impacts and proposed bill impact mitigation below.

#### **A. Anticipated Customer Impact**

The February 2021 COG prices included forecasted expenses of approximately \$44.7 million for the NSP natural gas system in Minnesota and North Dakota, including \$34.3 million in commodity costs. We estimate total actual purchased gas expense of approximately \$306 million for February 2021. We estimate incremental costs of approximately \$247 million were incurred for the 5-day period of February 13-17, or \$32.5 million for North Dakota customers. We are aware that there are investigations in many different forums looking into whether there was price gouging or market manipulation in the natural gas market during this time period. These investigations will likely take many years before they reach final resolution, but if price gouging or

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market manipulation is found and the Company receives a payment out of these investigations, we will work to reasonably return those proceeds to our customers. The Company will provide an update on these investigations in its next COG True-up due September 1, 2021.

Table 2 below shows the average impact per natural gas customer by class for this 5-day period, based on the COG True-up cost recovery mechanism.

**Table 2: Estimated Average Gas Bill Impact**

ND Customer Class	Mo. Use Per Customer (therms)	Avg. Cost Impact per Customer
Residential	64	\$239
Commercial & Industrial	531	\$239
Small Interruptible	7,511	\$1,890
Large Interruptible	70,593	\$17,127

Under the current COG true-up mechanism, this true-up would be recovered over 12 months beginning September 2021.

The Company's electric customers will not see an increase in costs as a result of the February Extreme Weather Event. The Company notes that, due to offsetting energy sales within the MISO market, the estimated impact is a net savings of \$1.7 million on the North Dakota actual electric fuel expenses for February, as shown in Table 3 below. Therefore, an alternative recovery methodology is not needed to moderate the impacts on fuel and purchased energy for February 2021.

**Table 3: Estimated Impacts of February Extreme Weather Event**

\$ millions	NSP System	North Dakota	ND's Share
Gas	5	0.3	6.20%
Coal	2	0.1	
Oil	10	0.6	
Purchased Power	1	0.1	
Gen Sales	(45)	(2.8)	
Total Electric, net	(27)	(1.7)	

### **B. Natural Gas Recovery Mitigation Options**

Given the magnitude of the natural gas costs, the Company proposes to mitigate the impact on natural gas bills from this event by extending the recovery timeframe to 2 years through our COG True-up mechanism. Despite the longer than customary

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recovery period, and the costs the Company will incur to finance these purchases, the Company does not propose to include carrying charges during the recovery period. Additionally, we propose to further mitigate the impacts by implementing rates that are lower in the winter season when customer natural gas usage is significantly higher due to heating load. Specifically, we propose winter rates that are half of summer rates.

The Company recognizes that our commercial and industrial customers have the option to move from natural gas sales service to transportation service. Transportation service customers contract for gas supplies separate from the Company’s system supply, and therefore do not pay the Company’s COG rates or COG true-up rates. Given the substantial costs incurred for this event, the Company proposes to track customers who move from natural gas sales service to transportation service after February 2021, and charge those customers the COG true-up for the timeframe in which the 2020-21 COG true-up is effective.

Table 4 below provides an estimate of our proposed COG true-up rates based on the February Extreme Weather Event.

**Table 4: Estimated ND COG True-up Rates  
With Winter Rates 50% of Summer Rates**

ND Customer Class	Estimated Under-recovery-Allocation (Feb 2021 Usage) \$ Millions	Sep 2021-Aug 2023 Summer Usage therms	Sep 2021-Aug 2023 Winter Usage therms	Sep 2021-Aug 2023 Summer Rate \$/therm	Sep 2021-Aug 2023 Winter Rate \$/therm
Residential	\$12.4	16,908,516	62,572,430	0.257138	0.128569
Commercial & Industrial	\$17.2	31,468,860	84,687,573	0.233387	0.116694
Small Interruptible	\$1.1	4,609,034	6,792,868	0.135343	0.067672
Large Interruptible	\$1.8	20,422,887	18,544,527	0.060850	0.030425
Total	\$32.5	73,409,297	172,597,399		

Note: Winter months include Nov-Mar; summer months include Apr-Oct.

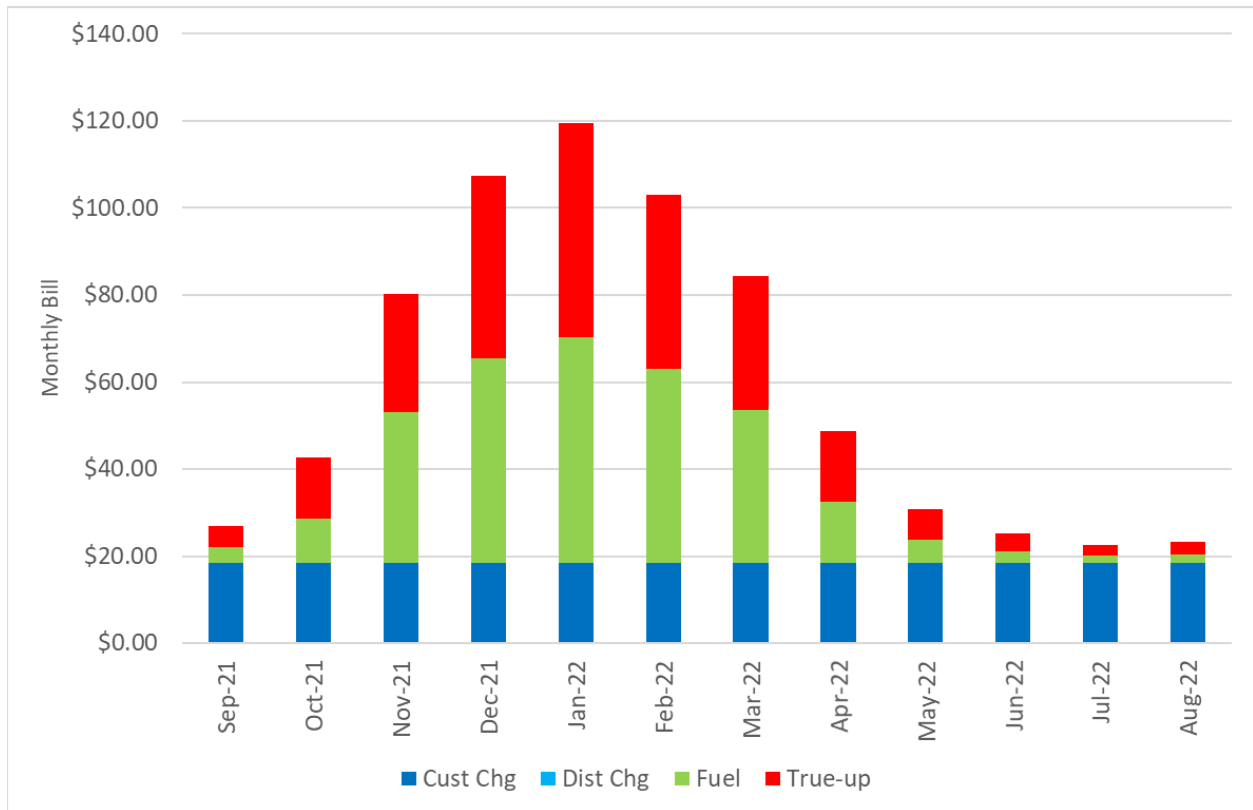
Residential customers would see an estimated average monthly bill increase of \$9.94, with a monthly range of \$2.01 to \$20.15 depending on the level of usage. See Table 5 below.

**Table 5: Estimated Average Customer Impact under Company’s Mitigation Proposal**

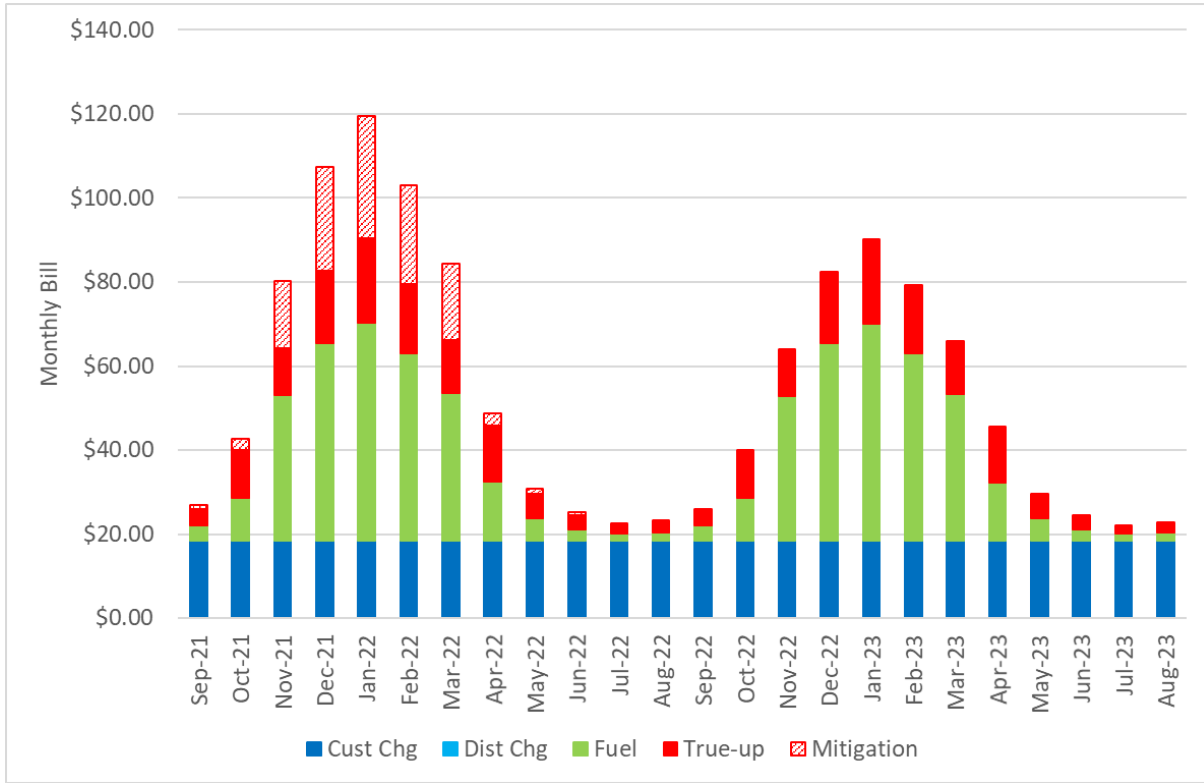
ND Customer Class	Monthly Use Per Customer (therms)	Average Monthly Bill	Average Monthly Bill Increase	
			\$	%
Residential	64	\$39	\$10	25%
Commercial & Industrial	531	\$261	\$79	30%
Small Interruptible	7,511	\$2,674	\$714	27%
Large Interruptible	70,593	\$21,423	\$3,273	15%

The figures below compare the average residential bill impact under the current COG true-up mechanism (Figure 7) and the Company’s proposed impact mitigation methodology (Figure 8).

**Figure 7: Average Residential Bill Impacts - Current COG True-up Rate Methodology**



**Figure 8: Average Residential Bill Impacts – Proposed COG True-up Rate Methodology**



If this two-year, seasonal true-up rate proposal is approved in this docket then actual seasonal true-up rates for the 2-year recovery timeframe would be presented in the Company’s September 1, 2021 COG True-up filing. Rates would be based on the total under-recovery for the July 2020 through June 2021 timeframe. In the Company’s September 1, 2022 COG True-up filing, true-up rates would again be updated to incorporate actual over- or under-recovery experienced for the July 2021 through June 2022 gas year.

**V. RESPONSES TO NDPSC STAFF INFORMATION REQUESTS**

On March 3, 2021, the North Dakota Public Service Commission initiated an investigation into the impacts and rate treatment for public utility customers related to the extreme weather events of February 5-18, 2021. They opened two cases: PU-21-102 for Natural Gas and PU-21-105 for Electric.

On March 8, Commission staff asked 12 questions in each of the electric and natural gas dockets. We respond to those questions below.

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**Case No. PU-21-102 (Natural Gas)**

**1.1 Please provide forecasted February 2021 gas usage and cost estimates by customer class used to derive the Feb 2021 Cost of Gas (COG) rate.**

The table below provides the forecasted February 2021 gas usage and cost estimates by customer class used in the calculation of the February COG.

Customer Class	Forecast Gas Usage (Dkt)	Forecast Commodity Costs (\$)	Forecast Demand Costs (\$)	2021 February Forecast Gas Total Cost (\$)
Residential	655,224	\$1,796,311	\$666,166	\$2,462,477
Commercial/Industrial	822,096	\$2,253,797	\$835,825	\$3,089,622
Small Interruptible	56,511	\$154,927		\$154,927
Large Interruptible	161,964	\$444,029		\$444,029
<b>Total</b>	<b>1,695,796</b>	<b>\$4,649,064</b>	<b>\$1,501,991</b>	<b>\$6,151,055</b>

**1.2 Please provide the actual February 2021 gas usage and cost actuals by customer class.**

The table below provides the actual February 2021 gas usage and cost actuals by customer class.

Customer Class	Actual Gas Usage (Dkt)	Actual Commodity Costs (\$)	Actual Demand Costs (\$)	2021 February Actual Gas Total Cost (\$)
Residential	682,755	\$14,897,314	\$316,921	\$15,214,235
Commercial/Industrial	949,091	\$20,708,585	\$488,674	\$21,197,259
Small Interruptible	59,693	\$1,310,571		\$1,310,571
Large Interruptible	99,551	\$2,185,664		\$2,185,664
<b>Total Actual</b>	<b>1,791,090</b>	<b>\$39,102,133</b>	<b>\$805,596</b>	<b>\$39,907,729</b>

**1.3 What is the total North Dakota difference between the forecast and actual natural gas cost/revenues for February 2021?**

The tables below show the difference between 1) the forecasted and actual February natural gas costs, and 2) the actual gas costs compared to the actual COG revenues collected for February 2021.

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<b>ND Forecast vs. Actual Cost - Feb 2021</b>		<b>ND Cost vs. Revenue - Feb 2021</b>	
	Total Cost		Total
Actual	\$39,907,729	Revenues	\$6,586,907
Forecast	\$6,151,055	Costs	\$39,907,729
<b>Difference</b>	<b>\$33,756,674</b>	<b>Difference</b>	<b>(\$33,320,822)</b>

**1.4 What amount of gas was forecasted to be used from storage during February? What actual amount of gas was used from storage?**

We forecasted usage of 3,339,000 Dth from storage in February, based on normal weather. We actually withdrew 3,788,877 Dth.

**1.5 What amount of gas is procured using contract prices versus spot pricing? Is the contracted percentage the same year to year?**

Based on an average weather month, for February we forecasted NSP, would buy roughly [TRADE SECRET BEGINS                      TRADE SECRET ENDS] of its natural gas as baseload, first-of-the-month pricing, and [TRADE SECRET BEGINS                      TRADE SECRET ENDS] at daily spot prices. These percentages are typical for the peak winter months of December through February. Baseload gas supplies are gas supplies purchased in advance of delivery for a set period (generally a month, or season) with the same quantity delivered each day of the period. For example, a baseload purchase of 5,000 Dth for a month would provide 5,000 Dth per day for each day of the month. Baseload purchases are generally locked in at the monthly price, which may be higher or lower than the daily spot price. Packages of baseload gas are generally purchased either seasonally in the summer or fall, or during the last week of the month previous to the one gas is being purchased for. The baseload price varies from month-to-month and season-to-season reflecting current market conditions.

**1.6 How much of the gas usage during the events was used by customers on an interruptible rate?**

During the gas curtailment events that occurred in February of 2021, North Dakota customers on the interruptible rates used 6,825 therms of gas.

**1.7 How much interruptible customer gas usage was curtailed?**

During the February Extreme Winter Event we curtailed all interruptible customers from February 5 through February 8 and again from February 12

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through February 18; priority groups 1-3 were released February 17. Additionally, we curtailed all Fargo, ND area customers from February 9 through February 11. We estimate that the curtailments in North Dakota provided estimated load relief of 73,000 Dth during the month of February. Customers were invoiced for approximately \$341,000 in penalties for 6,825 Dth of gas used, or 8.5% of the estimated curtailable volume of 80,000 Dth. All curtailment penalties will be credited to firm customers through the COG True-up to be filed September 1, 2021.

### **1.8 How much interruptible customer gas usage could have been curtailed during the events?**

If NSPM Company had 100 percent compliance with the calls for curtailment, we could have expected approximate relief of 80,000 Dth in North Dakota..

### **1.9 What does your tariff or policy dictate regarding interruptible customers when gas supply is available, but the gas price is extreme?**

The Company's tariffs do not contain language addressing a situation in which natural gas supply is available but gas prices are extremely high. The Company curtails customers to provide system relief during peak conditions. We do not currently have a policy regarding "economic" curtailments of Interruptible Service customers, but we note that high natural gas prices are generally more likely to occur during peak demand conditions, when interruptions are likely to take place anyway.

### **1.10 What mechanism would normally be used to recoup the under collection of natural gas costs from question 1.3?**

Over- or under-recoveries of natural gas costs for the 12-month period ending June 30 are normally credited to, or recovered from, customers through the Company's Annual Cost of Gas True-up mechanism.. The Company files the Annual Cost of Gas True-up rate, along with the supporting calculations, each year by September 1, and true-up rates for each class are effective September 1 for the following 12 months.

### **1.11 What timeframe would the under collection normally be spread over? What return amount does the company earn on the under collected balance?**

See the response to 1.10 above for the True-up timeframe.

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The Company earns interest on the current year cost of gas balancing account at the 3-month Treasury Bill Rate.

### 1.12 Are there alternatives to the mechanism and timeframe to recoup the under collected balance that would provide less rate shock to North Dakota ratepayers?

Given the magnitude of these costs, the Company proposes in this docket to mitigate the bill impacts from the February Extreme Weather Event by extending the recovery timeframe to 2 years through the COG true-up mechanism. Additionally, we propose to further mitigate the impacts by implementing rates that are lower in the winter season when customer natural gas usage is significantly higher due to heating load. Specifically, we propose winter rates that are half of summer rates.

### PU-21-105 Electric

#### 1.1 Please provide forecasted February 2021 electric usage and cost estimates by customer class used to derive the Feb 2021 Fuel and Purchased Power (FCR) rate.

The Company's Fuel Cost Rider (FCR) is based on a 4-month moving average of historical (actual) fuel and purchased power costs (with a two month lag). Thus, the February 2021 FCR rate was derived from actual September, October, November, and December 2020 costs and billing month usage. As such, the February FCR is not based on a forecast of February 2021 fuel/purchased energy costs and/or electric usage.

The table below shows the costs used to set the February FCR rates based on 4-month moving average of cost:

	ND Avg MWh	Estimated February Cost	Asset Based	Non- Asset Based	REC Sales	Biomass Buyout	Total February Cost
Residential	57,735	1,344,059	(\$348,715)	(\$6,253)	\$2,240	\$19,679	\$1,011,010
Non-Dmd	7,734	180,036	(\$46,710)	(\$838)	\$300	\$2,636	\$135,424
Non-TOD	55,838	1,299,903	(\$337,259)	(\$6,048)	\$2,166	\$19,033	\$977,796
TOD On-Pk	17,122	398,594	(\$103,415)	(\$1,854)	\$664	\$5,836	\$299,825
TOD Off-Pk	27,674	644,239	(\$167,147)	(\$2,997)	\$1,074	\$9,433	\$484,601
Outdoor Ltg	1,586	36,916	(\$9,578)	(\$172)	\$62	\$541	\$27,769
Total	167,687	3,903,748	(\$1,012,824)	(\$18,162)	\$6,506	\$57,158	\$2,936,426

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**1.2 Please provide the actual February 2021 electric usage and cost actuals by customer class.**

The table below shows the actual February 2021 North Dakota billing month MWh sales and actual costs incurred in the month of February, allocated to class:

	ND MWh	February Cost	Asset Based	Non- Asset Based	REC Sales	Biomass Buyout	Total February Cost
Residential	79,358	\$1,848,248	(\$1,349,506)	(\$6,235)	(\$17)	\$23,445	\$515,935
Non-Dmd	9,998	\$232,853	(\$170,019)	(\$786)	(\$2)	\$2,954	\$65,001
Non-TOD	55,715	\$1,297,602	(\$947,450)	(\$4,378)	(\$12)	\$16,460	\$362,223
TOD On-Pk	15,032	\$350,095	(\$255,623)	(\$1,181)	(\$3)	\$4,441	\$97,728
TOD Off-Pk	24,805	\$577,708	(\$421,816)	(\$1,949)	(\$5)	\$7,328	\$161,266
Outdoor Ltg	1,569	\$36,542	(\$26,681)	(\$123)	(\$0)	\$464	\$10,201
<b>Total</b>	<b>186,477</b>	<b>\$4,343,049</b>	<b>(\$3,171,095)</b>	<b>(\$14,652)</b>	<b>(\$39)</b>	<b>\$55,091</b>	<b>\$1,212,354</b>

The February actual costs are recovered through the FCR using a four-month rolling average calculation over the months of April, May, June, and July 2021.

**1.3 What is the total North Dakota difference between the forecast and actual electric cost/revenues for February 2021?**

The tables below show the difference between 1) the costs included in the February FCR (based on 4 month rolling average of September 2020 through December 2020 costs) and actual fuel and purchased energy costs for the month of February 2021, and 2) actual revenues collected through the February 2021 FCR rates and the costs included in the February FCR:

<b>ND Actual Cost vs FCR Cost Feb 2021</b>	
	Total Cost
Feb Actual	\$1,212,354
Feb FCR Costs	\$2,936,426
<b>Difference</b>	<b>(\$1,724,072)</b>

<b>ND Actual Rev vs. FCR Cost Feb 2021</b>	
	Total
Feb Revenues	\$4,292,692
Feb Actuals	\$1,212,354
<b>Difference</b>	<b>\$3,080,338</b>

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**1.4 What amount of gas was forecasted to be used from storage for power generation during February? What actual amount of gas was used from storage for power generation?**

For February, we planned to use 1,400,000 Dths of storage based on an average weather month. We used 1,747,356 Dths.

**1.5 What amount of gas is procured using contract prices versus spot pricing for power generation? Is the contracted percentage the same year to year?**

For February, based on an average weather month, we planned NSP would buy roughly [TRADE SECRET BEGINS           TRADE SECRET ENDS] of its natural gas as baseload, fixed priced gas, and [TRADE SECRET BEGINS           TRADE SECRET ENDS] would be split between storage and daily spot gas. Gas usage varies significantly from day-to-day depending on MISO's dispatch requests causing the storage and spot gas categories to vary somewhat. Baseload gas supplies are gas supplies purchased in advance of delivery for a set period (generally a month, or season) with the same quantity delivered each day of the period. For example, a baseload purchase of 5,000 Dth for a month would provide 5,000 Dth per day for each day of the month. Baseload purchases are generally locked in at the monthly price, which may be higher or lower than the daily spot price. Packages of baseload gas are generally purchased either seasonally in the summer or fall or during the last week of the month for the following month. The baseload price varies from month-to-month and season-to-season reflecting current market conditions.

**1.6 How much of the electric usage during the events was used by customers on an interruptible rate?**

There were no control events for electric customers on the retail side.

**1.7 How much interruptible customer electric usage was curtailed?**

No interruptible electric customers on the NSP system were curtailed during the event.

**1.8 How much interruptible customer electric usage could have been curtailed during the events?**

See Attachment A (trade secret) to this report.

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### **1.9 What does your tariff or policy dictate regarding interruptible customers when electric supply is available, but the electric price is extreme?**

The Rules for Application of Peak-Controlled Service (ND Tariff Sheet No. 5-42) provides the following primary explanation:

6. The duration and frequency of control periods shall be at the discretion of Company. Control periods will normally occur at such times as when Company expects system peak load conditions and at such other times when, in Company's opinion, the reliability of the system is endangered.

The Tier 1 Energy Controlled Service Rider adds a price-related term (see part a. below) to its conditions for interrupting Peak Controlled Service (ND Tariff Sheet No. 5-89):

2. The duration and frequency of interruption periods shall be at the discretion of Company. Interruption periods will normally occur at such times when:
  - a. Company is required to use generation equipment or to purchase power that results in production costs in excess of \$70 per MWH,
  - b. Company expects a reasonable possibility of system load levels surpassing the level for which NSP has sufficient accredited capacity under the Midwest Reliability Organization (MRO) or any successor organization, including reserve requirements, or
  - c. In Company's opinion, the reliability of the system is endangered.

These programs are registered demand response (DR) with MISO where the Company would follow MISO's lead in making a curtailment decision.

### **1.10 What mechanism would normally be used to recoup the under collection of electric costs from question 1.3?**

Under the current FCR mechanism, the true up of over- or under- collections will get trued up two months after the FCR rates were implemented. For example, the February cost true up will be reflected in the April FCR calculations and rates. Any unrecovered balance in April will continue carrying into the true up calculations in subsequent months. The Company does not earn a return on under-collected balances.

### **1.11 What timeframe would the under collection normally be spread over? What return amount does the company earn on the under collected balance?**

See the response to 1.10 for the timeframe.

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**1.12 Are there alternatives to the mechanism and timeframe to recoup the under collected balance that would provide less rate shock to North Dakota ratepayers?**

The Company believes an alternative methodology is not needed to moderate the impacts of the February Extreme Weather Event on fuel and purchased energy costs for February 2021 given that the actual costs were lower than expected (see response to 1.3 above). We note that the April FCR rates, which reflects the February 2021 True-up, is were within an expected range:

<b>Customer Class</b>	<b>FCR Rate</b>
Residential	<b>1.579¢</b>
C & I Non-Demand	<b>1.634¢</b>
C & I Demand Non-TOD	<b>1.613¢</b>
C & I Demand TOD On-Peak	<b>2.027¢</b>
C & I Demand TOD Off-Peak	<b>1.260¢</b>
Outdoor Lighting	<b>1.163¢</b>

**CONCLUSION**

We appreciate the opportunity to provide this information to the Commission, and we hope it is helpful to the Commission. We respectfully request the Commission to consider, in this docket, our proposed COG True-up methodology to mitigate the rate impacts of the February Extreme Weather Event on February 2021 purchased gas costs. Approval to move ahead with the proposed two year timeframe and seasonally moderating True-up charge would allow the Company to implement the True-up on September 1, 2021 as part of the Company’s annual Cost of Gas True-up filing.

Dated: April 9, 2021

Northern States Power Company

This shows the total hourly submittals for Load Modifying Resources for 2/5/21 - 2/18/21.

[TRADE  
SECRET  
BEGINS

Sum of Value	hourEndingEst value	Total
<b>2/5/2021</b>	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
<b>2/6/2021</b>	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	

TRADE  
SECRET  
ENDS]

[TRADE  
SECRET  
BEGINS

Sum of Value	hourEndingEst value	Total
<b>44233</b>	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
<b>2/7/2021</b>	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
<b>2/8/2021</b>	1	
	2	
	3	
	4	
	5	
	6	
	7	

TRADE  
SECRET  
ENDS]

[TRADE  
SECRET  
BEGINS

Sum of Value	hourEndingEst value	Total
44235	8	[REDACTED]
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
2/9/2021	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
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TRADE  
SECRET  
ENDS]

[TRADE  
SECRET  
BEGINS

Sum of Value	hourEndingEst value	Total
<b>44236</b>	24	
<b>2/10/2021</b>	1	
	2	
	3	
	4	
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	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
<b>2/11/2021</b>	1	
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TRADE  
SECRET  
ENDS]

[TRADE  
SECRET  
BEGINS

Sum of Value	hourEndingEst value	Total
44238	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
2/12/2021	1	
	2	
	3	
	4	
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	19	
	20	
	21	
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	23	
	24	
2/13/2021	1	
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TRADE  
SECRET  
ENDS]

[TRADE  
SECRET  
BEGINS

Sum of Value	hourEndingEst value	Total
44240	8	
	9	
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	12	
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	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
2/14/2021	1	
	2	
	3	
	4	
	5	
	6	
	7	
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	12	
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	22	
	23	

TRADE  
SECRET  
ENDS]

[TRADE  
SECRET  
BEGINS

Sum of Value	hourEndingEst value	Total
<b>44241</b>	24	
<b>2/15/2021</b>	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
<b>2/16/2021</b>	1	
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	14	
	15	

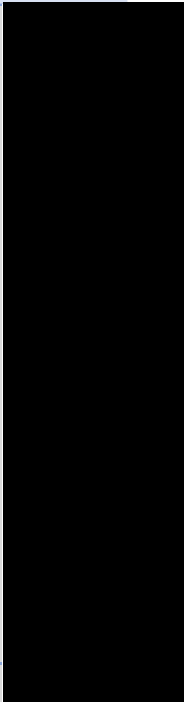
TRADE  
SECRET  
ENDS]

[TRADE  
SECRET  
BEGINS

Sum of Value	hourEndingEst value	Total
<b>44243</b>	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
<b>2/17/2021</b>	1	
	2	
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	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
<b>2/18/2021</b>	1	
	2	
	3	
	4	
	5	
	6	
	7	

TRADE  
SECRET  
ENDS]

[TRADE  
SECRET  
BEGINS

Sum of Value	hourEndingEst value	Total
44245	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
Grand Total		

TRADE  
SECRET  
ENDS]