BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
600 North Robert Street
St. Paul, MN 55101

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION
121 7th Place East, Suite 350
St Paul MN 55101-2147

In the Matter of the Petitions for Recovery of Certain Gas Costs	OAH Docket No. 71-2500-37763
In the Matter of the Petition of CenterPoint Energy for Approval of a Recovery Process for Cost Impacts Due to Feb. Extreme Gas Mkt. Conditions	MPUC Docket No. G-008/M-21-138
In the Matter of the Petition by Great Plains Natural Gas Co., a Div. of Montana-Dakota Utils. Co., for Approval of Rule Variances to Recover High Nat. Gas Costs from Feb. 2021	MPUC Docket No. G-004/M-21-235
In the Matter of the Petition of N. States Power Co. d/b/a Xcel Energy to Recover Feb. 2021 Nat. Gas Costs	MPUC Docket No. G-002/CI-21-610
In the Matter of the Petition of Minn. Energy Res. Corp. for Approval of a Recovery Process for Cost Impacts Due to Feb. Extreme Gas Mkt. Conditions	MPUC Docket No. G-011/CI-21-611

SURREBUTTAL TESTIMONY AND ATTACHMENTS OF MATTHEW J KING

ON BEHALF OF

THE DIVISION OF ENERGY RESOURCES OF
THE MINNESOTA COMMERCE DEPARTMENT

FEBRUARY 11, 2022

PUBLIC DOCUMENT

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is Matthew J. King. I am a consultant with GDS Associates, Inc. (GDS).

Q. ARE YOU THE SAME WITNESS WHO SPONSORED DIRECT TESTIMONY IN THIS CASE?

A. Yes. I submitted direct testimony on behalf of the Minnesota Department of Commerce, Division of Energy Resources (Department).

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my testimony is to respond to rebuttal testimony of CenterPoint Energy Resources d/b/a CenterPoint Energy Minnesota Gas (CenterPoint or CNP), Northern States Power, a Minnesota Corporation (Xcel), Minnesota Energy Resource Corporation (MERC), and Great Plains Natural Gas Company, a Division of Montana-Dakota Utilities Co (Great Plains or GP), collectively the Gas Utilities. I address the arguments made by the Gas Utilities in response to the recommended disallowances from my direct testimony related to the February Event and associated Extraordinary Costs.[1] In Section II, I address issues that are pertinent to each of the Gas Utilities including the prudence standard, knowledge available on February 16, and curtailment for February 17. In subsequent sections, I individually address each of the Gas Utilities responses to the recommended disallowances from my direct testimony.

[1] In line with my direct testimony, the February Event (February 13 to 17, 2021) and Extraordinary Costs (Costs incurred for gas above $20/Dth) are as defined in the Commission's August 30, 2021 Order.

Q. ARE THERE OTHER GDS WITNESSES PROVIDING TESTIMONY?

A. Yes. Mr. Richard Polich is also providing testimony responding to Xcel's Rebuttal Testimony related to the unavailability of its peaking plants.

II. GENERAL ISSUES

A. Prudence and Hindsight

Q. DO THE GAS UTILITIES DISAGREE WITH THE PRUDENCE STANDARD YOU UTILIZED IN YOUR DIRECT TESTIMONY?

A. No. There continues to be general agreement on the appropriate definition of the prudence standard. Despite agreement that prudence should be assessed based on information known or reasonably knowable at the time decisions were made, the Gas Utilities each take issue with the application of the prudence standard by arguing that the benefit of hindsight is being inappropriately applied.

Q. DID YOU APPLY HINDSIGHT IN DETERMINING THE DISALLOWANCES YOU RECOMMEND IN YOUR DIRECT TESTIMONY?

A. No. In determining the recommended disallowances, I carefully apply the information and context available to the Gas Utilities prior to and during the February Event at the time decisions were made. This was achieved by reviewing the actions taken by the Gas Utilities in chronological order prior to and throughout the February Event based on the available information at the time. The most significant dates are February 12 on which the Gas Utilities purchased spot gas for the Four-Day Period (February 13-16), per the gas supply market dynamics I described in my direct testimony, and February 16 on which the Gas Utilities purchased spot gas for February 17.[2]

Q. HOW DID YOU CONSIDER WHAT INFORMATION WAS AVAILABLE ON FEBRUARY 12 AND 16?

A. I reviewed the Gas Utilities supply plans for the periods over which they purchased spot gas on both February 12 and 16 with full acknowledgement of how the gas supply market dynamics influence when and how the Gas Utilities must make their purchasing decisions. For February 12, I acknowledge that that the spot price spike was not fully understood until later in the day, after the Gas Utilities made purchasing decisions. I also acknowledge that the magnitude of the price spike was unprecedented, meaning it was outside of the historical pricing range known to the Gas Utilities prior to the spike. For February 16, I recognize that the Gas Utilities had the intervening holiday weekend during which they gained certain information, described further in the next section and in my Direct testimony, that they did not have on February 12.

Q. PLEASE SUMMARIZE YOUR APPLICATION OF AVAILABLE INFORMATION IN DETERMINING PRUDENCE?

A. To assess prudence, I carefully apply only the pertinent information available to the Gas Utilities at the time decisions were made. In response to the broad claims of hindsight application made by the Gas Utilities in their rebuttal testimony, I describe how I carefully applied the prudence standard using the key spot market purchasing days of

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[2] DOC Ex. ___ at 23–26, 54–65 (King Direct) (Sections II.D & III.E).

February 12 and 16 as examples. Where the Gas Utilities make more specific criticism of hindsight application, I respond to those specifics further below.

B. <u>Knowledge on February 16</u>

Q. PLEASE DESCRIBE THE ADDITIONAL KNOWLEDGE THE GAS UTILITIES HAD ON FEBRUARY 16.

A. The additional knowledge gained by the Gas Utilities is well documented in the Department of Energy Office of Cybersecurity, Energy Security, and Emergency Response Extreme Cold & Winter Weather Update #1 (DOE Update previously included as MJK-D-11) which was released at noon on February 16.[3]

Q. WHAT INFORMATION DOES THE DOE UPDATE PROVIDE?

A. The DOE Update summarizes the impact of extreme cold and status of the electric, natural gas, and petroleum sectors. Specifically, it states that ERCOT, SPP (Southwest Power Pool), and MISO were instituting controlled power outages and millions of customers were without power. For the natural gas sector, it summarizes that gas production was significantly reduced, demand was high, and prices had spiked.

Q. WHY IS THIS ADDITIONAL INFORMATION SIGNIFICANT?

A. Prudence requires reasonable action given available knowledge. On February 16, the Gas Utilities knew abundantly more than they did on February 12. The Gas Utilities knew that the gas market was in unprecedented territory in terms of price, caused by cold

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[3] *See* DOC Ex. ___, MJK-D-11 (King Direct) (Dep't of Energy – Extreme Cold & Winter Weather, Update #1). Although the DOE Update was released at noon, it summarized information that had developed over the long weekend that the Gas Utilities should have already been aware of.

weather driven demand increases and production failures. As I discussed in my direct testimony, a reasonable actor on February 12 may have expected prices in the range of $15-65/Dth based on the increase in prices throughout that week with a forward expectation capped at the previous price record of $65/Dth set during the 2017-18 New Year Event. By February 16, a reasonable price expectation was completely different based on the unprecedented price spike for the Four-Day Period as well as the ongoing uncertainty and conditions in the gas market. In my direct testimony, I recommend disallowances related to decisions that could have been made on February 16 for supply on February 17. Those recommendations are based on reasonable action requiring the Gas Utilities to adapt and respond to the unprecedented gas market environment. That adaptation involves different behavior on February 16 (as compared to February 12) and further mitigation of extreme costs based on the additional knowledge the Gas Utilities.

C. <u>Curtailment</u>

Q. PLEASE SUMMARIZE YOUR RECOMMENDED DISALLOWANCE RELATED TO CURTAILMENT.

A. In my direct testimony, I recommend a disallowance based on the failure of the Gas Utilities to reduce their spot purchases for February 17 (as decided on February 16) for planned curtailments. I do not recommend a similar disallowance for the Four-Day Period but do for February 17 based on the additional knowledge the Gas Utilities had.

Q. DO THE GAS UTILITIES AGREE WITH YOUR RECOMMENDATION?

A. No. The Gas Utilities generally repeat their argument that they only curtail for capacity needs related to pipeline availability and not for economics. The Gas Utilities also make arguments that their tariffs would not allow them to curtail for economics, they do not have defined programs for doing so, and that doing so would have cascading impacts.

Q. WHY SHOULD THE GAS UTILITIES HAVE PLANNED TO CURTAIL FOR FEBRUARY 17?

A. Although I acknowledge that curtailing based on the spot price of gas is outside the historical and traditional usage of curtailment, the extreme price spike, of which the Gas Utilities were aware of by February 16 and had reason to believe would continue for February 17, was also unprecedented, and reasonable action warranted efforts above prior practice to mitigate the massive economic burden on customers.

Q. WOULD THE GAS UTILITIES' TARIFFS HAVE ALLOWED FOR CURTAILMENT?

A. As stated in direct testimony, it is my understanding that the Department will respond to the legal question of the ability to curtail related to the Gas Utilities' tariffs in post-hearing briefs.

Q. DID THE GAS UTILITIES NEED TO HAVE FULLY DEVELOPED AND DEFINED PROGRAMS TO CURTAIL?

A. No. The Gas Utilities could have made curtailments on February 17 on a one-time, ad hoc basis given the extreme circumstances and did not need to fully develop a permanent program to do so. My recommended disallowance is based on 50% of the estimated curtailment volume available, which is meant to reflect the Gas Utilities curtailing a select number of their largest curtailment customers which would have been operationally feasible.[4]

III. CNP

Q. WHAT ISSUES ARE YOU ADDRESSING RELATED TO CNP?

A. I am addressing CNP's responses to my recommended disallowances in the areas of storage, baseload, and peaking plants.

A. Storage

Q. WHAT CNP STORAGE ISSUES ARE YOU ADDRESSING?

A. I address four areas related to CNP's owned Medford storage, NGPL pipeline storage, BP Canada virtual storage, and pertinent disallowance calculations.

1. Medford

Q. PLEASE SUMMARIZE YOUR DISALLOWANCE RELATED TO MEDFORD.

A. In direct testimony, I recommended a disallowance related to CNP underutilizing Medford (CNP's owned storage, also referred to as Waterville). The disallowance was based on CNP actually withdrawing 10% (5,000 Dth) on February 14 above what it included in its supply plan.

Q. DID CNP RESPOND TO YOUR RECOMMENDED DISALLOWANCE FOR MEDFORD?

A. Yes. CNP argues that it cannot know if Medford is capable of withdrawing above a level of 50,000 Dth in advance and that it does not include such incremental withdrawals in

[4] Because Xcel curtailed for the entire February Event, its disallowance is calculated differently and addressed further below.

its supply plans.[5] Specifically, CNP argues that its ability to withdraw in excess of 50,000 Dth depends on operating conditions on NNG's system and storage field conditions.[6] CNP also argues that relying on incremental withdrawals at Medford would jeopardize reliability if those withdrawals ended up not being available.[7]

Q. HOW DO YOU RESPOND TO CNP'S ARGUMENT THAT IT DOES NOT AND CAN NOT PLAN FOR ADDITIONAL WITHDRAWALS FROM MEDFORD?

A. CNP owns Medford and is a major shipper on NNG. Although CNP may not have perfect foresight, it has not demonstrated that it cannot plan for incremental withdrawals (above 50,000 Dth) at Medford based on the knowledge it does have. Furthermore, a review of CNP's historical winter operations of Medford over the past several years reviews that CNP withdrawals are frequently above 50,000 Dth.[8]

Q. WOULD RELYING ON INCREMENTAL WITHDRAWALS FROM MEDFORD JEOPARDIZE RELIABILITY?

A. No. For February 14, CNP planned on keeping its peaking plants and ability to curtail in reserve, and I have not recommended a disallowance to the contrary. CNP had more than sufficient supply capability to replace the small 5,000 Dth from Medford if it was not available.

[5] CNP Ex. ___ at 34–35 (Grizzle Rebuttal).
[6] CNP Ex. ___ at 7 (Heer Rebuttal).
[7] CNP Ex. ___ at 35 (Grizzle Rebuttal).
[8] *See* DOC Ex. ___, MJK-R-1 (King Surrebuttal) (CNP Responses to DOC IR 74 and CUB IR 34).

Q. WHY IS INCREMENTAL UTILIZATION OF MEDFORD IMPORTANT GIVEN ITS RELATIVELY SMALL SIZE?

A. Because of the ratable purchase requirement of the natural gas spot market, any reduction of spot purchases CNP could have made based on its highest load day of February 14 reduces its spot purchases for each day of the Four-Day Period.

2. NGPL

Q. PLEASE SUMMARIZE YOUR DISALLOWANCE RELATED TO NGPL.

A. In direct testimony, I recommended a disallowance related to CNP underutilizing its NGPL storage. The disallowance was based on CNP including slightly less NGPL withdrawals than its full capability in its supply plans.

Q. HOW HAS CNP RESPONDED TO YOUR RECOMMENDED DISALLOWANCE?

A. CNP explained in rebuttal testimony and discovery that its supply plans are based on a receipt basis on NNG, and NGPL is its one upstream pipeline supply source. Because of that, CNP reflects losses or fuel use in its supply plans for NGPL to represent it on an "apples-to-apples" basis with its other supply.

Q. DOES CNP'S EXPLANATION CHANGE YOUR RECOMMENDED DISALLOWANCE?

A. Yes. Based on CNP's more detailed explanation in rebuttal testimony, I no longer recommend a disallowance related to NGPL.

3. BP Canada

Q. PLEASE SUMMARIZE YOUR DISALLOWANCE RELATED TO BP CANADA.

A. In my direct testimony, I calculate a disallowance related to CNP's BP Canada which is made of two parts. The first part is related to CNP's failure to maximize withdrawals from BP Canada on February 14, which caused it to buy additional spot gas for the entire Four-Day Period. The second part is related to CNP's failure to preserve the ability to withdraw from a portion of BP Canada on February 17. Those amounts are shown separately in Table 1 below.

Table 1: CNP BP Canada Disallowances

	$
Four-Day Period	9,121,676
February 17	12,195,499
Total	**21,317,175**

Q. PLEASE DESCRIBE HOW CNP UTILIZED BP CANADA DURING THE FEBRUARY EVENT.

A. On February 12, CNP decided to evenly split a withdrawal from BP Canada over the Four-Day Period. This amount was limited by the remaining inventory of gas contractually available to CNP to withdraw, specifically related to one portion of the BP Canada contract (the Ventura swing portion).

Q. WHAT LIMITATIONS DOES THE BP CANADA STORAGE ASSET HAVE?

A. Beyond the inventory limitations, there are other relevant limitations such as daily withdrawals limits. As CNP has stated, it is possible for it to vary the amounts of gas to withdraw from BP Canada on a daily basis over weekends and holidays, despite its decision not to do so during the Four-Day Period.[9] In other words, it does not have the ratable requirement that spot purchases have. However, CNP must specify its withdrawal amounts the business day prior to a weekend.

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[9] CNP Ex. ___ at 53 (Reed Rebuttal).

Q. SHOULD CNP HAVE MAXIMIZED WITHDRAWALS FROM BP CANADA ON FEBRUARY 14?

A. Yes. The BP Canada contract had a maximum daily withdrawal capability of 120,000 Dth during the Four-Day Period, but CNP's allocation of its remaining inventory evenly over the Four-Day Period (as if it had a ratable requirement) meant it only planned to withdraw 108,000 Dth on February 14. Because of the ratable requirement of the gas supply market, CNP could have avoided an incremental 12,000 Dth of spot purchases for each day of the Four-Day Period. Simply put, CNP could have and should have planned to withdraw up to the maximum amount on February 14, commensurate with its other storage contracts, to fully reduce its spot purchases for the Four-Day Period. This is the first part of my recommended disallowance related to the roughly $9.1 million.

Q. SHOULD CNP HAVE PRESERVED THE ABILITY TO WITHDRAW MORE FROM BP CANADA ON FEBRUARY 17?

A. Yes. CNP should have prioritized reserving the BP Canada inventory so it would have been available. Although CNP's actions for the entire winter 2020-21 season prior to the February Event are relevant to the inventory of gas it had available with BP Canada, CNP should have understood it had a limited inventory remaining as of February 12 and that exhausting it over the Four-Day Period would make it unavailable going forward.

Q. WAS THERE INFORMATION AVAILABLE TO CNP THAT SHOULD HAVE CAUSED IT TO PRESERVE BP CANADA FOR FEBRUARY 17?

A. Yes. The decision to preserve BP Canada is reasonable in light of the escalating price environment and uncertainty CNP found itself in on February 12. CNP should have preserved BP Canada in light of that uncertainty and could have decided that based on the information it had on the time. For example, on February 12, CNP was forecasting a significantly lower load requirement on February 16 but planned to meet that lower load requirement by reducing withdrawals at other storage assets (NNG and NGPL) which were not on the verge of being exhausted. Specifically, CNP was forecasting its load requirement for February 16 to be 160,000 Dth lower than for February 14. It planned to balance that lower load requirement (in light of fixed baseload and ratable spot supply) by withdrawing roughly 90,000 Dth less from its NNG and NGPL storage (in addition to not withdrawing from Medford).[10] Based on its forecast and plans on February 12, CNP could have planned to withdraw more from NNG and NGPL, less from BP Storage (to preserve it), and still had Medford available to utilize if needed.

Q. WHY SHOULD CNP HAVE PLANNED TO PRESERVE BP CANADA ON FEBRUARY 12 GIVEN THAT THE PRICE SPIKE WAS UNKNOWN AT THAT TIME?

A. Unlike peaking plants and curtailments, storage, CNP plans to operate storage including BP Canada, on a regular basis. CNP needs to manage the utilization of its storage assets, including consideration of inventory, on an ongoing basis.

[10] CNP Ex. ___, JTT-D-7 (Toys Direct).

4. Disallowance Calculation

Q. DOES CNP TAKE ISSUE WITH THE CALCULATIONS OF YOUR RECOMMENDED DISALLOWANCES?

A. Yes. Mr. Reed describes problems he sees with my calculation of recommended disallowances. Mr. Reed argues that I failed to account for replacement costs (meaning incremental storage costs) that should offset reduced spot costs.[11]

Q. DO YOU AGREE WITH MR. REED'S PROPOSED CALCULATION CHANGES?

A. No. Although I agree that additional storage used to offset spot purchases would cause additional storage costs to be incurred, my disallowance recommendations related to storage for CNP are generally not related to using additional storage. Rather, they are related to using the same amount of storage differently or accounting for it in purchase planning decisions differently. For example, the BP Canada disallowance is not based on withdrawing more from storage but utilizing available withdrawals differently over the February Event. Additionally, I would like to point out that the magnitude of including additional storage replacement costs is very small, on the order of less than 1% of the disallowance amount.[12]

[11] CNP Ex. ___, JJR-R-1 at 5–6 (Reed Rebuttal).
[12] CNP's average spot gas price was roughly $190/Dth for the Four-Day Period, whereas its storage cost was roughly $2/Dth.

B. <u>Baseload</u>

Q. PLEASE SUMMARIZE YOUR REQUEST OF CNP RELATED TO BASELOAD.

A. In my direct testimony, I requested that CNP confirm that a portion of BP Canada, despite being described in CNP's testimony as storage, is treated as baseload in its procurement decisions and Gas Purchasing Plan (GPP).

Q. DID CNP PROVIDE AN EXPLANATION IN REBUTTAL TESTIMONY?

A. Yes. CNP confirmed that the relevant portion of the BP Canada storage contract is treated as baseload. Accordingly, I do not recommend a disallowance related to baseload purchases for CNP.

Q. DO YOU HAVE ANY OTHER CONCERNS FOR CNP RELATED TO BASELOAD GAS?

A. Yes. I would like to respond to the contention that I suggest that additional baseload gas would "provide a price advantage" or "lead to lower costs."[13]

Q. IS IT YOUR POSITION THAT ADDITIONAL BASELOAD GAS WOULD ALWAYS LEAD TO LOWER COSTS?

A. I was careful in my direct testimony not to make that assertion, and I feel it is an important point to clarify. In my direct testimony, I discuss that it would be possible for the Gas Utilities to procure an amount of baseload gas above their forecasted minimum monthly load. I state that "additional baseload gas would lock in a monthly price (i.e., avoid daily price exposure) for that additional volume of gas every day of the month."[14]

[13] CNP Ex. ___ at 61–62 (Reed Rebuttal).
[14] DOC Ex. ___ at 38 (King Direct).

Q. IS THE MONTHLY PRICE GUARANTEED TO BE LOWER THAN THE AVERAGE DAILY PRICES?

A. No. In my direct testimony, I provide a figure that illustrates the dynamics of a monthly versus daily prices. In discussing that example, which happens to show daily spot prices to be higher than the monthly index price (since that is what occurred in February 2021), I also point out that "it is possible for the opposite to be true and a [first-of-month] or monthly price to be higher than the average daily spot price."[15]

Q. WHAT IS YOUR VIEW OF MONTHLY BASELOAD PURCHASES AND PRICE?

A. As I stated in direct testimony, baseload gas, within a given month, locks in a monthly price and avoids exposure to daily prices. Daily prices can be higher or lower than the relevant monthly price. Although I am not recommending a disallowance related to baseload purchases for CNP, it is still important to have clarity on this topic.

C. Peaking Plants

Q. PLEASE SUMMARIZE YOUR DISALLOWANCE FOR CNP RELATED TO PEAKING PLANTS.

A. In my direct testimony, I recommended a disallowance for CNP based on CNP's failure to utilize its peaking plants to reduce its spot purchases for February 17. Specifically, the disallowance is calculated based on the assumption that CNP should have utilized the full capability of its Liquified Natural Gas (LNG) peaking plant (while holding its propane plants in reserve) to offset spot purchases for that one day.

[15] DOC Ex. ___ at 33 n. 26, 34 (King Direct).

Q. WHY IS YOUR DISALLOWANCE RELATED ONLY TO PEAKING PLANT DISPATCH ON FEBRUARY 17?

A. As discussed above in Section III.B, the Gas Utilities had additional knowledge on February 16 (the day supply decisions were primarily made for February 17) that they did not have on February 12 (the day supply decisions were primarily made for the Four-Day Period).

Q. DOES CNP AGREE THAT THE ADDITIONAL KNOWLEDGE IT HAD MADE NOT DISPATCHING THE PEAKING PLANTS UNREASONABLE?

A. No. In rebuttal testimony, CNP argues that it does not use its peaking plants for economics, and it needed to hold its peaking plants in reserve to address unplanned supply shortfalls.[16]

Q. HOW DO YOU RESPOND TO CNP'S ARGUMENT THAT IT USES ITS PEAKING PLANTS FOR RELIABILITY AND NOT FOR ECONOMICS?

A. In my direct testimony, I describe that peaking plants are traditionally reliability tools, and CNP plans to use them as such per its Gas Procurement Plan (GPP). The lack of flexibility and timing of the gas supply market, the unprecedented nature of the price spike, and CNP's historical and planned use of its peaking plants are the chief reasons why I do not recommend a disallowance related to CNP not planning to use its peaking plants to reduce spot purchases over the Four-Day Period. However, by February 16, CNP had full knowledge of the price spike and had time to contemplate utilizing its

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[16] *See, e.g.*, CNP Ex. ___ at 43– 47 (Grizzle Rebuttal).

peaking plants to mitigate further increased economic impact to its customers. To be clear, CNP would have been aware it incurred on the order of $400 million of spot gas cost over the Four-Day Period, exceeding its entire gas commodity cost from the prior 2019-20 gas year. Simply because CNP historically and in its long-term plans does not dispatch its peaking plants based on economics does not mean CNP should not have done so in light of exigent and unprecedented circumstances. Reasonable action means utilizing its peaking plants to mitigate further economic harm to its customers given the full knowledge of the price spike on February 16.

Q. DID THE POTENTIAL FOR SUPPLY DISRUPTIONS MAKE IT REASONABLE FOR CNP TO HOLD ITS PEAKING PLANTS IN RESERVE FOR FEBRUARY 17?

A. No. My disallowance is based on CNP planning to dispatch only its LNG peaking plant, meaning its propane plants, which have nearly twice the daily dispatch capacity of the LNG plant, would have remained in reserve. To illustrate magnitude, CNP's propane plants have a daily output capability of 149,000 Dth, whereas CNP ended up facing roughly 56,000 Dth of supply failures over the entire February Event. In other words, the disallowance balances economics, by utilizing the LNG plant, with reliability, by holding the propane plants in reserve.

Q. ARE THERE OTHER JUSTIFICATIONS CNP PROVIDES FOR NOT UTILIZING ITS PEAKING PLANTS DURING THE FEBRUARY EVENT?

A. Yes. CNP argues that utilizing its peaking plants during the February Event could exhaust the plants and cause them to be unavailable for late-winter weather events through April.

Q. WOULD THE PEAKING PLANT DISPATCH UNDERLYING YOUR DISALLOWANCE RISK THE AVAILABILITY OF THE PEAKING PLANTS LATER IN THE WINTER?

A. No. CNP had not needed to use its peaking plants (LNG or propane) in a material way in the winter prior to the February Event. My disallowance is based on CNP, for only one day, utilizing only its LNG plant, which is capable of more daily dispatches at full output than the propane plants. As I discussed in my direct testimony, the LNG plant is capable of running almost 14 days at full output. Using one of those days on the last day of the February Event (February 17) would still have left CNP with roughly 13 days at full output worth of its LNG inventory without reducing the propane inventory at all. Given that February 17 falls relatively late in the winter heating season and CNP would still have had nearly all its peaking plant fuel inventory, the likelihood of numerous Design Day or near Design Day events in the remainder of the winter is so small, any incremental reliability risk is miniscule.

Q. ARE THERE ANY OTHER ISSUES RELATED TO CNP'S PEAKING PLANTS YOU WOULD LIKE TO ADDRESS?

A. Yes. There are two additional issues. First, in rebuttal testimony, CNP argues that the peaking plant dispatch it ended up employing over the Four-Day Period was not done for economic reasons.[17] Second, CNP makes a disallowance calculation argument

[17] *See, e.g.*, CNP Ex. __ at 14–16 (Heer Rebuttal).

related to replacement cost for peaking plant fuel usage similar to the above discussion on storage.[18]

Q. WHY IS THE MOTIVATION OF CNP'S PEAKING PLANT DISPATCH OVER THE FOUR-DAY PERIOD IMPORTANT?

A. CNP's motivation for its peaking plant dispatch over the Four-Day Period is only important insofar as it may be an example of CNP dispatching its peaking plants for economics to substitute for very expensive spot gas supply.

Q. IS CNP'S DISPATCH OF ITS PEAKING PLANTS OVER THE FOUR-DAY PERIOD THE PREMISE OF YOUR DISALLOWANCE RELATED TO FEBRUARY 17 PLANNED DISPATCH?

A. No. As discussed above, the premise of the disallowance related to planned dispatch of the peaking plants for February 17 is the additional knowledge CNP had related to the price spike, the ongoing dynamics of the natural gas market, and the impetus to take additional action to mitigate economic harm to its customers.

Q. HOW DOES CNP EXPLAIN ITS PURPOSE FOR RUNNING ITS PEAKING PLANTS OVER THE FOUR-DAY PERIOD?

A. CNP denies that it ran its peaking plants for economics over the Four-Day Period. Rather, CNP argues that it ran its peaking plants "to provide supplemental pressure support, to respond to intra-day variations in load based on weather, and to preempt potential supply issues."[19]

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[18] *See* CNP Ex. ___, JRR-R-1 at 5 (Reed Rebuttal).
[19] CNP Ex. __ at 14 (Heer Rebuttal).

Q. DO YOU AGREE THAT CNP DID NOT RUN ITS PEAKING PLANTS FOR ECONOMICS?

A. No. I am not claiming that the entirety of CNP's peaking plant dispatch was solely based on economics. To be clear, CNP running its peaking plants for supplemental pressure support would be an example of running for operational reasons. However, running to preempt potential supply cuts would be an example of running for economics. CNP could have pursued a strategy of acquiring additional spot gas on an intra-day basis (as Xcel did) to replace anticipated supply cuts. However, CNP appropriately utilized its peaking plants as an alternative to extremely expensive spot gas to replace anticipated supply cuts.

Q. WHAT ARGUMENT DOES CNP MAKE WITH RESPECT TO THE CALCULATION OF THE DISALLOWANCE?

A. CNP argues, in a similar manner to storage discussed above, that the peaking plant disallowance calculation should reflect the replacement of variable costs associated with running the LNG plant as an offset to the avoided cost of spot gas purchases.

Q. DO YOU AGREE THAT INCREMENTAL PEAKING PLANT DISPATCH WOULD INVOLVE INCREMENTAL COSTS?

A. Yes. Dispatch of the peaking plants involves variable costs including the gas dispatched.

Q. WHY DID YOU NOT INCLUDE REPLACEMENT COSTS AS AN OFFSET IN THE DISALLOWANCE AMOUNT?

A. I mirrored the treatment of peaking plant variable costs CNP makes in its avoided cost calculation.[20] For the peaking plant dispatch that CNP did make over the February Event, it calculated roughly $11 million dollars of avoided cost which is calculated purely as avoided spot price exposure without an offset for peak shaving variable costs. Similar to the storage issue, I would like to point out that the magnitude of including replacement costs is very small, on the order of 1 to 2% of the disallowance amount.

IV. XCEL

Q. WHAT ISSUES ARE YOU ADDRESSING RELATED TO XCEL?

A. I am addressing Xcel's responses to my recommended disallowances in the areas of baseload, forecasting, curtailments, supply reserve margins, storage, and peaking plants.

A. <u>Baseload</u>

Q. PLEASE SUMMARIZE YOUR BASELOAD DISALLOWANCE FOR XCEL.

A. In my direct testimony, I recommend a disallowance for Xcel based on it procuring less baseload for February 2021 than its stated procurement strategy.

[20] CNP Ex. ___, SSD-D-2 (DeMerritt Direct).

Q. DOES XCEL AGREE WITH YOUR BASELOAD DISALLOWANCE?

A. No. In rebuttal testimony, Xcel argues that its baseload procurement strategy considered factors in addition to its minimum forecasted load, such as storage inventory levels for February, which caused it to procure less baseload.

Q. IS THERE ANYTHING YOU WOULD LIKE TO CLARIFY BASED ON XCEL'S REBUTTAL TESTIMONY?

A. Yes. Xcel witness Mr. Steven Levine mischaracterized my position as requiring baseload purchase levels to only "be reasonable if it is set exactly equal to the minimum forecasted daily load for the month."[21] In fact, I explain in my direct testimony that the "optimal level of baseload gas would be dependent on the specific circumstances of each of the Gas Utilities" and that it would possible for the Gas Utilities to procure baseload above the minimum forecasted load.[22]

Q. WHY DO YOU RECOMMEND A DISALLOWANCE BASED ON THE DIFFERENCE BETWEEN XCEL'S FORECASTED MINIMUM LOAD AND BASELOAD PURCHASES?

A. I based my recommendation on Xcel's specific circumstances. Xcel clearly stated its procurement strategy for baseload gas in direct testimony as the following:

- "The Company purchases enough **baseload to serve the minimum expected customer requirements every day for that month**, planning to not exceed the

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[21] Xcel Ex. ___ at 7 (Levine Rebuttal).
[22] DOC Ex. ___ at 37 (King Direct).

demand on warmer days of the month and the **providing any needed additional supply through storage and spot purchases** as conditions dictate."[23]

- "The goal is to purchase **enough baseload to serve the minimum customer need**s every day for that month."[24]
- "Storage inventory levels were healthy and on target. Therefore it was **unnecessary to purchase more baseload gas to compensate for lower than planned storage levels**."[25]

In other words, Xcel has the self-stated goal of procuring baseload to meet the minimum forecasted load. However, Xcel actually procured less than that amount, thus the recommended disallowance for the difference.

Q. DOES YOUR BASELOAD DISALLOWANCE REQUIRE THE APPLICATION OF HINDSIGHT?

A. No. Xcel has a stated strategy to make baseload purchases at a certain level which it did not execute. This is not a strategy I have developed with the benefit of the knowledge of the February Event. Hindsight is not necessary to reconcile Xcel's stated strategy versus its actual procurement of baseload. It is worth pointing out that CNP has the same stated strategy of procuring baseload volumes equal to the minimum forecasted load. I similarly investigated whether CNP followed its stated strategy and, as discussed above, confirmed it did.

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[23] Xcel Ex. __ at 11 (Derryberry Direct) (emphasis added).
[24] Xcel Ex. ___, RLD-D-2 at 7 (Derryberry Direct) (emphasis added).
[25] Xcel Ex. ___, RLD-D-2 at 17 (Derryberry Direct) (emphasis added).

Q. WHY DID XCEL NOT PROCURE BASELOAD GAS EQUAL TO ITS MINIMUM FORECASTED LOAD?

A. In rebuttal testimony, Xcel argues that it needed to withdraw gas from storage to meet contractual requirements to reduce inventory levels by the end of the winter season. Specifically, Xcel argues that it needed to withdraw from storage an average of 113,100 Dth of gas each day in February. Xcel argues that this necessary withdrawal from storage substitutes for baseload.[26]

Q. DO YOU AGREE WITH XCEL THAT THESE NECESSARY STORAGE WITHDRAWALS SUBSTITUTE FOR BASELOAD?

A. No. Storage is still storage and is distinct from baseload. A key characteristic of baseload is that it provides a fixed quantity of gas each day. A key characteristic of storage is that it is flexible and can withdraw or inject gas up to contractual limits each day. In other words, even though Xcel needed to withdraw a certain amount of gas from storage throughout February, it does not need to do so with a fixed amount each day as the average daily amount might indicate. Xcel could reach the required average amount by withdrawing varying amounts from zero to the maximum contractual withdrawal limit on different days throughout the month. If Xcel had procured baseload equal to the minimum load, it would still be planning to use storage withdrawals (as a substitute for spot gas purchases) on days above the minimum which could meet the required reduction to inventory.

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[26] Xcel Ex. ___ at 11 (Derryberry Rebuttal).

Q. PLEASE PROVIDE AN EXAMPLE OF HOW NECESSARY STORAGE WITHDRAWALS AND BASELOAD ARE DIFFERENTIATED.

A. As a hypothetical, consider a 100,000 Dth baseload contract and a storage contract that requires average daily withdrawals of 100,000 Dth in a given month. The baseload contract requires flowing 100,000 Dth every single day. The storage contract could achieve the 100,000 Dth average by flowing 0 Dth on one day and 200,000 Dth the next (contractual limits permitting). Baseload provides a consistent, fixed "base"' of supply. Storage provides a flexible, variable "swing" of supply. They are fundamentally different supply tools.

Q. IS XCEL'S NEED TO WITHDRAW A CERTAIN AMOUNT OF GAS ON A DAILY, AVERAGE BASIS A CONVINCING REASON TO BUY LESS BASELOAD GAS?

A. No. Xcel provided five-year historic load quantities which indicate February's average daily load is 493,510 Dth.[27] Xcel actually procured 168,600 Dth[28] of baseload gas and presented in rebuttal testimony that it needed to withdraw a daily average of 113,100 Dth from storage.[29] In other words, Xcel needed to take a total of 281,700 Dth of gas supply (baseload plus storage) on average.[30] On an average, daily basis, Xcel should have expected its load requirement for February 2021 to only be 57% satisfied by baseload and necessary storage withdrawals. Based on this, it is not plausible that Xcel needed to

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[27] DOC Ex. __, MJK-R-2 (King Surrebuttal) (Xcel Response to DOC IR 4(f)).
[28] Xcel Ex. __ at 26 (Derryberry Direct) (Table 3).
[29] Xcel Ex. ___ at 11 (Derryberry Rebuttal) (90,500 Dth [NNG] + 7,600 Dth [ANRS] + 15,000 Dth [ANRP] = 113,100).
[30] To be clear, Xcel would not need to withdraw 113,100 Dth from storage each day, but over the course of the month its withdrawals would need to average that amount.

abandon its baseload procurement strategy of procuring the minimum load based on storage inventory levels. Xcel should have anticipated more than sufficient load to accommodate the incremental 21,163 Dth of baseload following its strategy would have entailed. In fact, incorporating the incremental baseload gas per its stated strategy and goal would have only increased the portion of average load to be met by baseload and necessary storage withdrawals to 61%. The remaining 39% of load would need to be met with additional storage withdrawals (above the average daily withdrawal amount to meet inventory requirements) and spot gas purchases.

Q. DID XCEL HAVE ANY OTHER ARGUMENTS REGARDING YOUR BASELOAD RECOMMENDATION?

A. Yes. Xcel witness Mr. Derryberry argued that I should have used five years of data, as Xcel does in planning its baseload purchases, instead of the three years of data that I based my analysis on in direct.[31]

Q. DOES AN ADDITIONAL TWO YEARS OF HISTORICAL LOAD DATA CHANGE THE ANALYSIS?

A. No. Xcel argues that using 5 years of historical data is good practice. The above example is based on 5 years of historical data.[32] Furthermore, even utilizing 2017, which Xcel cites as a much warmer weather February (and is in fact the lowest load February in the prior 5 years) still leaves Xcel with an average load of 345,196 Dth. This is still a sufficient

[31] Xcel Ex. __- at 6–8 (Derryberry Rebuttal).
[32] The Department initially requested five years of data but did not receive more than three years until after Xcel submitted rebuttal testimony. *See* DOC Ex. ___, MJK-R-3 (King Surrebuttal) (Xcel Response to DOC IR 56).

amount of load to incorporate Xcel's baseload procurement goal and necessary storage withdrawals. To be clear, it is not my position that Xcel was or should have anticipated February weather for 2021 to be similar to 2017. However, 2017 load data provides that even at the most conservative end of the 5-year history, Xcel's under-procurement of baseload is still not justified.

Q. WAS XCEL'S BASELOAD PROCUREMENT DECISION CONSISTENT WITH ITS DECISIONS IN PRIOR YEARS BASED ON STORAGE INVENTORY LEVELS?

A. No. Xcel provided data which show its storage inventory levels going into February 2021 were indeed the highest in the past 5 years but not by a very large amount. For example, the storage inventory levels going into February 2021 were only 4% higher than the same the prior year.[33] Despite that, Xcel procured **[HIGHLY CONFIDENTIAL TRADE SECRET INFORMATION BEGINS …**[redacted]**… HIGHLY CONFIDENTIAL TRADE SECRET INFORMATION ENDS]** baseload for February 2021 than for February 2020.[34]

Q. WERE THERE OTHER ISSUES RELATED TO XCEL'S BASELOAD PURCHASES?

A. Yes. In addition to the under-procurement and associated disallowance, I described that Xcel had not demonstrated that it had a reasonable forecasted minimum load for February 2021.

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[33] DOC Ex. ___, MJK-R-4 (King Surrebuttal) (DOC IR 57 Attachment A).
[34] DOC Ex. ___, MJK-R-3 (King Surrebuttal) (DOC IR 56 HCTS Attachment B).

Q. HAS XCEL DEMONSTRATED IT HAD A REASONABLE FORECASTED MINIMUM LOAD FOR FEBRUARY 2021?

A. No. Xcel argues that it uses five years of data and two of the years of historical load data showed lower load. Xcel points to the two lower load years as justification for its February 2021 minimum load forecast. However, the lowest minimum load over several prior years (i.e., the minimum of the minimum) by itself is not a good indicator of a reasonable expectation for the upcoming year. Historical data is important but typically serves only an input into a forecast model, the output of which would be a reasonable expectation. To explain further, a concept in forecasting is normalizing for weather, which is a technique that involves using decades of historical weather data to create an expectation based on "normal" weather. So called "normal" weather is distinct from whatever happened to be the warmest year in the past five years. This sort of forecasting can be a useful baseline for longer term forecasting absent an updated weather forecast which is typically not reliably available until closer to the actual timeframe.

Q. WHAT IS THE BASIS FOR A REASONABLE MINIMUM LOAD FORECAST?

A. A reasonable minimum load forecast should be based on a forecasting model of Xcel's expected usage for the upcoming month based on the latest information available prior to the month. For the February Event, that means Xcel's purchasing of baseload should have been informed by a modeled forecast of its load requirements developed at the end of January (based on the information available at that time on weather) for February 2021.

Q. DOES XCEL'S MINIMUM LOAD FORECAST FOR FEBRUARY 2021 ALIGN WITH THIS BASIS?

A. Xcel has not explained how it developed its minimum load forecast, and there is a lack of clarity around that issue. In testimony and discovery, Xcel describes a minimum load forecast without detailing its derivation. At the same time, when asked to supply data for Xcel's expected monthly minimum day, average day, and maximum day load, Xcel explained that it "does not generate load forecasts for the winter in the form requested" and instead uses five-year historic load quantities "to inform its baseload purchases for the upcoming season or month, in combination with other information, such as experience, weather forecasts, and storage inventory."[35]

Q. IS THE MINIMUM LOAD FOR A MONTH OVER A FIVE-YEAR PERIOD A REASONABLE BASIS FOR A FORECAST?

A. No. As discussed above, simply using the historical minimum over 5 years (i.e., the minimum of the minimum over those five years) is not a reasonable forecast. A reasonable load forecast needs to be based on a contemporaneous weather forecast. Simply using a historical, 5-year minimum will naturally bias the expectation for the minimum downward because, by definition, it would use the lowest load day over multiple heating seasons. Said differently, an usually warm and mild month in the 5-year history should not definitively set the expectation for load if the weather forecasts indicate the upcoming month will be average or colder than normal.

[35] DOC Ex. ___, MJK-R-2 (King Surrebuttal) (Xcel response to DOC IR 4(f)).

Q. WHAT IS THE SIGNIFICANT OF XCEL'S MINIMUM LOAD FORECAST?

A. The disallowance I recommend for Xcel is based on its stated minimum load forecast for February 2021 and is likely therefore conservative. However, if Xcel's minimum load forecast for February 2021 is unreasonable and, based on the information available to Xcel at the time, Xcel should have forecasted a higher minimum load, then the recommended disallowance is understated.

B. <u>February Event Forecasting, Curtailments, and Supply Reserves</u>

Q. PLEASE SUMMARIZE YOUR DISALLOWANCE FOR XCEL RELATED TO CURTAILMENTS AND LOAD FORECASTING.

A. In my direct testimony, I recommend a disallowance for Xcel based on its failure to buy an appropriate amount of spot gas given its forecast of load and the impact of curtailments. I calculated that disallowance based on a re-creation of the volumes of spot gas Xcel would have bought while fully accounting for expected curtailment volumes.

Q. DOES XCEL AGREE WITH YOUR DISALLOWANCE?

A. No. In rebuttal testimony, Xcel argues that it appropriately accounted for curtailments in forecasting its supply requirements and that its gas purchases above its forecasted load and curtailments are a reasonable reserve margin.[36]

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[36] Xcel Ex. ___ at 15–23 (Derryberry Rebuttal).

Q. IS YOUR DISALLOWANCE PREMISED ON XCEL BUYING GAS FOR ITS CURTAILED CUSTOMERS?

A. No. I explain in my direct testimony that Xcel failed to demonstrate how exactly it determined what volume of spot gas to purchase. Part of that failure was premised on the fact that Xcel did not explain how it factored expected curtailment volumes into its supply purchasing plan. Xcel's discussion of its projected load requirements and planned supply did not address the topic of curtailment volumes. The omission is best illustrated by a table from Mr. Derryberry's direct testimony (see Figure 1 below), which summarizes Xcel's supplies by type over the February Event. Mr. Derryberry explains that "[e]ach day's planned usage slightly exceeds the forecasted load" and that is reasonable because Xcel plans "to have a supply reserve (or safety margin) available each day."[37] In discovery, Xcel referenced that table and stated that "the difference between Total Planned Supplies and the Forecasted Load is the gas supply reserve margin."[38] The issue with these descriptions is that Xcel's planned supplies slightly exceeded the forecasted load *inclusive of curtailment volumes.* When the fact that Xcel's forecasted load includes curtailed customers, it becomes clear that the gas supply reserve margin is the difference between Total Planned Supplies and the Forecasted Load less estimated curtailments. When estimated curtailments are considered, Xcel's planned supplies more than slightly exceed the forecasted load.

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[37] Xcel Ex. ___, RLD-D-2 at 26 (Derryberry Direct).
[38] DOC Ex. ___, MJK-D-6 at 2 (King Direct) (Xcel Response to DOC IR 5(b)).

Figure 1: Xcel February Event Supplies vs Load[39]

	Saturday, Feb. 13th	Sunday, Feb. 14th	Monday, Feb. 15th	Tuesday, Feb. 16th	Wednesday, Feb. 17th
Baseload Purchases	168,600	168,600	168,600	168,600	168,600
Delivered Supply	37,700	37,700	37,700	37,700	34,000
Spot Purchases	356,427	356,427	356,427	356,427	273,549
Less Supply Failures	*0*	*-1,028*	*-33,245*	*-12,417*	*-10,416*
"Make Up" Purchases	0	14,442	8,280		0
Total Purchased Supplies	**562,727**	**576,141**	**537,762**	**550,310**	**465,733**
Planned Storage	190,213	190,213	190,213	190,213	190,213
Total Planned Supplies	**752,940**	**766,354**	**727,975**	**740,523**	**655,946**
Forecasted Load	*729,191*	*754,477*	*724,738*	*674,779*	*644,628*
Actual Load	*702,070*	*710,041*	*683,676*	*614,091*	*574,135*

Q. WHAT IS A SUPPLY RESERVE MARGIN?

A. In my direct testimony, I accept the practice and reasonableness of planning for supply slightly in excess of expected load requirements in concept (a supply reserve margin) in light of the risks of under-supply. However, I testified that the amount of a supply reserve margin should be deliberately determined and explainable.

Q. HOW ARE SUPPLY RESERVE MARGINS RELEVANT TO YOUR DISALLOWANCE?

A. In recreating what volumes of spot gas Xcel should have purchased with full consideration of curtailments, I employ the concept of a supply reserve margin by grossing Xcel's forecasted load by a fixed percentage before reducing that total amount for estimated curtailments. In two separate scenarios, I apply 2% and 5.5% as the supply reserve margin. The basis for those percentages is described further below.

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[39] Xcel Ex. ___, RLD-D-2 at 26 (Derryberry Direct).

Q. HAS XCEL EXPLAINED HOW IT DETERMINES THE SUPPLY RESERVE MARGIN IT INCORPORATED INTO ITS PURCHASING OVER THE FEBRUARY EVENT?

A. No. In fact, in rebuttal testimony Xcel argues that the topic of a supply reserve margin is not conducive to mathematics. Xcel argues that the differing circumstances drives it to seek differing amounts of supply reserve margins, providing data that suggests Xcel might need as large as a 30% supply reserve margin.[40]

Q. IS IT POSSIBLE TO ASSESS THE REASONABLENESS OF XCEL'S PURCHASES WITHOUT APPLYING MATHEMATICS?

A. No. If any component of Xcel's gas purchasing cannot be quantified or is the subject of unlimited discretion by the utility, then it is impossible to assess the reasonableness of Xcel's actions. In its Order, the Commission specifically asks how any disallowance should be calculated.[41] Because all of the Gas Utilities employ a supply reserve margin, a quantitative representation of a reasonable supply reserve margin is necessary to calculate a disallowance.

Q. ARE THE SUPPLY RESERVE MARGINS YOU APPLY IN YOUR DISALLOWANCES MEANT TO BE PRESCRIPTIVE, REQUIRED ASPECTS OF XCEL'S PURCHASING GOING FORWARD?

A. No. The supply reserve margins that I apply in my disallowance calculation are only intended to be a representative reasonable supply reserve margin to be applied in calculating a disallowance related to the February Event.

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[40] Xcel Ex. __ at 22 (Derryberry Rebuttal) (Figure 1).

[41] ORDER GRANTING VARIANCES AND AUTHORIZING MODIFIED COST RECOVERY SUBJECT TO PRUDENCE REVIEW, AND NOTICE OF AND ORDER FOR HEARING at 22 (Aug. 30, 2021).

Q. DOES XCEL AGREE WITH THE SUPPLY RESERVE MARGIN ASPECT OF YOUR DISALLOWANCE?

A. No. In addition to arguing that a reasonable supply reserve margin cannot be quantified, Xcel suggests that both of the supply reserve margins I utilize are too low.

Q. WHAT IS THE BASIS FOR THE 2% SUPPLY RESERVE MARGIN?

A. The 2% supply reserve margin is based on the plans of the other Gas Utilities. For February 14, CNP, MERC-NNG, and GP planned to be 1.8, 1.7, and 1.8% "long" (meaning carrying supply in excess of forecasted load).[42] In other words, the 2% supply reserve margin assumption for Xcel is slightly higher than the supply reserve margin that the other Gas Utilities actually planned for.

Q. WHAT IS THE BASIS FOR THE 5.5% SUPPLY RESERVE MARGIN?

A. The 5.5% supply reserve margin is Xcel's own figure. Specifically, Xcel in its 2020-2021 Contract Demand (CD) Entitlement filing included a 5.5% capacity reserve margin above it Design Day demand. Said differently, on a Design Day (the coldest and highest load conditions that Xcel plans for), Xcel would only have the capacity to achieve a 5.5% supply reserve margin.

Q. WHY DID YOU CALCULATE DISALLOWANCES FOR TWO DIFFERENT SCENARIOS?

A. The lower supply reserve margin of 2% accompanies the scenario as if Xcel's peaking plants had been available during the February Event rather than unavailable for the

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[42] DOC Ex. ___, MJK-S-5 (King Surrebuttal) (GP Response to DOC IR 7, Attachment A); CNP Ex. ___, JTT-D-7 (Toys Direct); MERC Ex. ___ at 47 & SRM-D-7 (Mead Direct).

entire winter. The higher supply reserve margin of 5.5% is meant to be applied in a scenario without peak shaving facilities. This is logical because as CNP explains "peaking facilities operate as a safety net to address unforeseen circumstances."[43] Because Xcel's peaking plants were unavailable for the entire winter, Xcel had to substitute its local, ratepayer-funded safety net for expensive spot gas purchases.

Q. HOW SHOULD THE TWO DIFFERENT DISALLOWANCE SCENARIOS BE CONSIDERED?

A. As discussed further below, I do not address the unavailability of Xcel's peaking plants. That topic is addressed by my colleague Mr. Polich. Therefore, the selection between the two different disallowances for Xcel must be considered in tandem with Mr. Polich's findings.

Q. ARE THERE ANY OTHER CLAIMS BY XCEL RELATED TO YOUR CURTAILMENTS, FORECASTING, AND SUPPLY RESERVES TO WHICH YOU WOULD LIKE TO RESPOND?

A. Yes. There are two additional issues that I would like to respond to. First, I would like to respond to Xcel's argument that it was not unreasonable for it to release some of its interruptible customers from curtailment early on February 17.[44] I would also like to respond to Xcel's argument that its intra-weekend purchases were reasonable in light of the information it had at the time.[45]

[43] CNP Ex. __ at 34 (Reed Rebuttal).
[44] Xcel Ex. ___ at 56–57 (Levine Rebuttal); Xcel Ex. ___ at 26–28 (Derryberry Rebuttal)
[45] Xcel Ex. ___ at 23-26 (Derryberry Rebuttal)

Q. WHAT IS XCEL'S ARGUMENT WITH RESPECT TO ITS RELEASED CURTAILMENTS ON FEBRUARY 17?

A. Xcel argues that when it purchased gas for February 17 on February 16, it had not yet decided to release customers under curtailment.

Q. DOES THE PLANNED TIMING OF WHEN XCEL RELEASED ITS CURTAILMENTS AFFECT YOUR DISALLOWANCE?

A. No. I have two recommended disallowances for Xcel related to its load forecasting and curtailments on February 17, and they are designed to be additive. The first is related to the above discussion and is related to Xcel not buying an appropriate amount of spot gas given its load forecast, a reasonable reserve margin, and expected curtailments. It is calculated with the expected curtailments at a lower level given the second disallowance which is related to the amount of released curtailments. Regardless of when Xcel planned to release curtailed customers, those disallowances in combination reflect my recommended disallowance based on a reasonable amount of spot gas for February 17.

Q. WHAT IS XCEL'S ARGUMENT RELATED TO ITS INTRA-WEEKEND PURCHASES?

A. Xcel's argument continues to be that its intra-weekend purchases were reasonable based on its knowledge at the time, including its expectation of supply failures.

Q. HOW DO YOU RESPOND TO XCEL'S ARGUMENT THAT ITS INTRA-WEEKEND PURCHASES WERE REASONABLE?

A. First, I would like to reiterate that I have proposed two different sets of disallowances for Xcel, based on the availability of its peaking plants. Xcel has speculated that, had its peaking plants been available, it may have avoided making the intra-weekend purchases. Even given that the peaking plants were unavailable, Xcel has still not demonstrated that its incremental purchases and the related quantities were reasonable given the information it had at the time. For example, the actual weather on February 14 and February 15 was warmer than forecasted on February 12. Given the weather, Xcel's recent success with curtailment performance, and its conservative purchasing, it remains unclear why Xcel felt additional, expensive spot gas was needed. As such, I continue to recommend the disallowance in both scenarios.

C. <u>Storage</u>

Q. PLEASE SUMMARIZE YOUR STORAGE DISALLOWANCE FOR XCEL.

A. In direct testimony, I recommend a disallowance related Xcel not incorporating the full capability of its storage to offset spot purchases for February 17.[46]

Q. DOES XCEL AGREE WITH YOUR STORAGE DISALLOWANCE?

A. No. Specifically, Xcel argues that the storage disallowance is a "double count" because it is already embedded in the disallowance related to curtailments, forecasting, and reserves.

Q. DO YOU AGREE THAT THE STORAGE DISALLOWANCE IS EMBEDDED IN ANOTHER DISALLOWANCE?

A. Yes. Although the intention was to create disallowances that could be considered in a purely incremental and additive fashion, upon review I agree that the storage

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[46] Xcel Ex. __ at 48–50 (Levine Rebuttal).

disallowance is effectively included in the curtailments for the forecasting disallowance. I have corrected the double count by adjusting the forecasting in curtailments disallowance to not include the storage disallowance.

Q. WHAT IS THE IMPACT OF THE STORAGE DISALLOWANCE CORRECTION?

A. The impact is a reduction of the curtailments in forecasting (for February 17) of the amount of the spot gas avoided in the storage disallowance (roughly $4 million). The corrected amount is reflected in Table 4 and an updated disallowance calculation is included as schedule 6.[47]

D. <u>Peaking Plants</u>

Q. PLEASE SUMMARIZE YOUR PEAKING PLANT DISALLOWANCE FOR XCEL.

A. In my direct testimony, I recommend a disallowance for Xcel related to its failure to plan to dispatch its peaking plants and offset spot purchases during the February Event. For the Four-Day Period, the disallowance is based on an amount of planned peaking plant dispatch that would have allowed Xcel to reduce its ratable purchase of spot gas at a level sufficient to meet the lower forecasted load on February 16 (instead of the higher forecasted load of February 14). That amount of planned peaking plant dispatch is equivalent to roughly 30-50% of the capability of Xcel’s LNG plant on February 13-15. For February 17, the disallowance is simply based on half of the output capability of Xcel’s LNG plant. Although I have represented the amount of peaking plant dispatch in terms of the LNG plant, Xcel could have dispatched this quantity from any combination

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[47] DOC Ex. ___, MJK-S-6 (King Surrebuttal).

of its peaking plants. The dollar amount associated with each time period (the Four-Day Period and February 17) is shown below in

Table 2: Xcel Peaking Plant Disallowances

	$
Four-Day Period	49,382,475
February 17	14,688,960
Total	**64,071,435**

Q. HOW SHOULD THE DISALLOWANCE BE CONSIDERED IN LIGHT OF THE UNAVAILABILITY OF XCEL'S PEAKING PLANTS FOR THE ENTIRE WINTER?

A. As mentioned above, I do not address the unavailability of Xcel's peaking plants. That topic is addressed by my colleague Mr. Polich. Rather, I assess the economic impact of the peaking plants unavailability on Xcel's gas supply during the February Event. The Xcel peaking plant disallowance, therefore, must be considered along with the circumstances surrounding the peaking plants unavailability as discussed by Mr. Polich.

Q. DOES XCEL AGREE WITH YOUR PEAKING PLANT DISALLOWANCE?

A. No. Xcel argues that it is impossible to know how its gas purchasing during the February Event may have changed if its peaking plants had been available, while also arguing it may not have used its peaking plants since the February Event did not involve a Design Day. Specifically, Xcel argues that I establish different baselines of reasonableness as compared to CNP and that it utilized its peaking plants during the 2017-18 New Year's Event for operational reasons (not planning or purchases).[48]

[48] Xcel Ex. ___ at 37 (Derryberry Rebuttal).

Q. DO YOU APPLY A DIFFERENT BASELINE OF REASONABLENESS TO XCEL?

A. No. All of my recommended disallowances are based on applying the same prudence standard to the facts surrounding each of the Gas Utilities. The facts surrounding each of the Gas Utilities are not identical, so disallowances may be different even when the same standard is applied. For example, Xcel's peaking plants were unavailable for the entire winter of 2020-21 which is a fact unique to Xcel. As a consequence of that fact, I recommend a disallowance based on a supply reserve margin higher than it otherwise could have been. Doing so does not then require that specific supply reserve margin to be applied in relevant instances to the calculation of recommended disallowances for each of the other Gas Utilities. As another example, CNP is the only one of the Gas Utilities with a forward-looking supply plan approved by the Commission (its GPP). The existence of the GPP is a fact relevant to the consideration of reasonable behavior but only for CNP. As I discussed in my direct testimony related to other aspects of CNP's GPP, I assume that CNP and the stakeholders to its GPP were comfortable with the stated dispatch approach of the peak shaving facilities in its GPP. Because Xcel has no GPP, the facts surrounding Xcel's peaking plant dispatch decisions are materially different.

Q. IS YOUR XCEL PEAKING PLANT DISALLOWANCE FOR FEBRUARY 17 DIFFERENT THAN YOUR RECOMMENDATION FOR CNP?

A. No. The discussion above in Section III.C also applies here. Xcel, like CNP, had additional knowledge on February 16 (when making supply decisions for February 17) that meant it should have planned to dispatch its peaking plants for February 17.

Q. HOW DO THE FACTS RELATED TO PEAKING PLANT DISPATCH DIFFER BETWEEN CNP AND XCEL?

A. As I discussed in my direct testimony, Xcel's historical usage of its peaking plants differs from CNP, as well as the unavailability of its peaking plants. In particular, Xcel utilized its peaking plants during the 2017-18 New Year Event, which I introduced in my direct testimony as a similar event to the February Event. CNP did not utilize its peaking plants during the 2017-18 New Year Event.

Q. PLEASE DESCRIBE HOW XCEL UTILIZED ITS PEAKING PLANTS DURING THE 2017-18 NEW YEAR EVENT.

A. Over the 2017-18 New Year Event, Xcel dispatched its peaking plants, primarily its LNG plant on the order of magnitude of 50% of its daily output capability. Figure 2 shows Xcel's peaking plant dispatch in the context of its overall supply during the 2017-18 New Year Event as well as the Ventura spot prices (Ventura had been trading in the range of $2-4/Dth before spiking to roughly $65/Dth for the weekend period). Figure 3 shows the peaking plant dispatch in isolation, with LNG and propane shown separately.

Figure 2: Xcel 2017-18 New Year Event Supply[49]

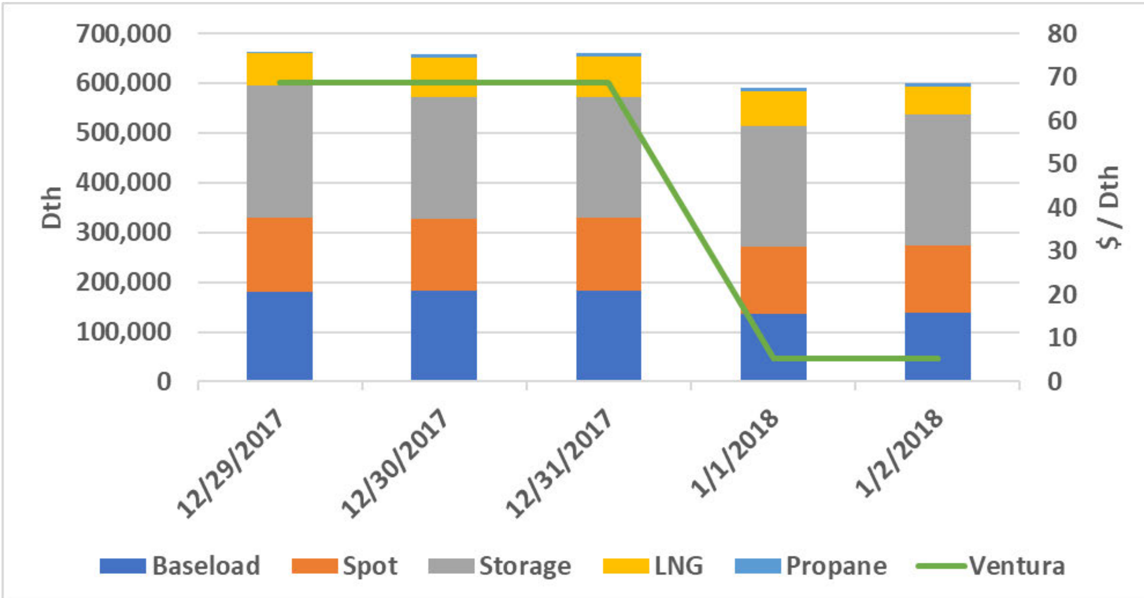
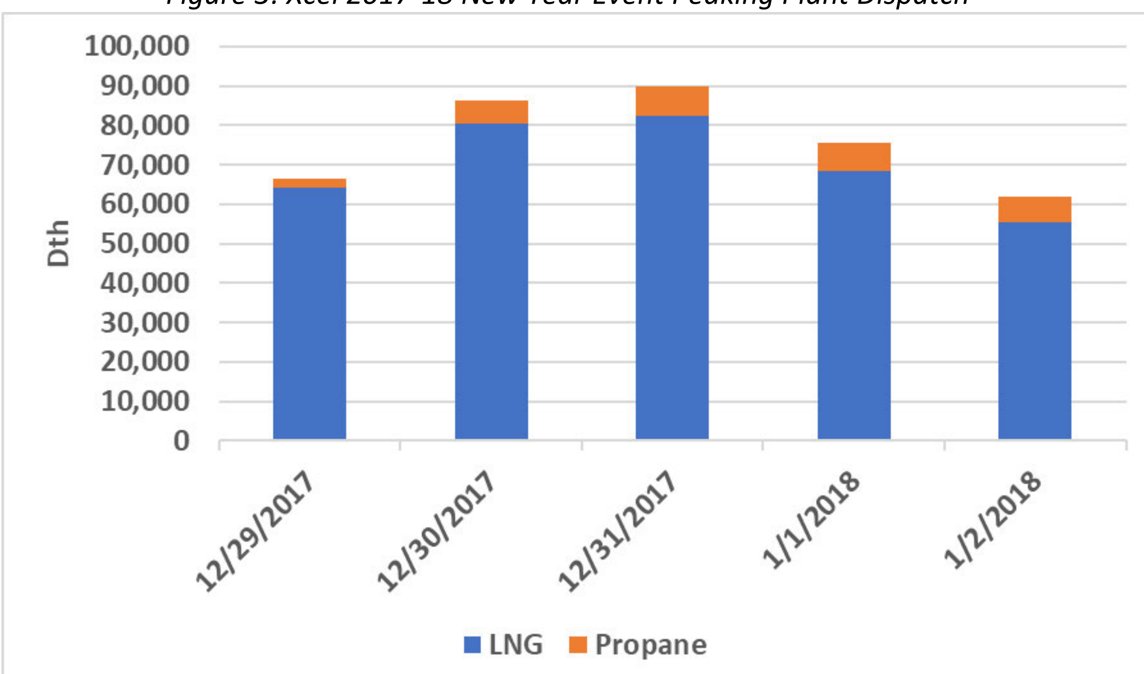


Figure 3: Xcel 2017-18 New Year Event Peaking Plant Dispatch[50]



[49] *Source:* DOC Ex. ___, MJK-S-7 (King Surrebuttal) (Xcel Corrected Response to DOC IR 7).
[50] *Id.*

Q. HOW DOES XCEL CHARACTERIZE ITS PEAKING PLANT DISPATCH DURING THE 2017-18 NEW YEAR EVENT?

A. Xcel states that it is impossible to determine why it ran its peaking plants during the 2017-18 New Year Event.[51] Xcel also argues that it may have run its peaking plants because of concerns about supply from the Bakken region, which Xcel argues would have been more of a concern than the February Event and thus more of a cause for running its peaking plants.[52]

Q. DO YOU AGREE WITH XCEL'S EXPLANATION OF ITS 2017-18 NEW YEAR EVENT PEAKING PLANT DISPATCH?

A. No. Xcel has not demonstrated that it encountered or anticipated significant supply failures or that it needed to run its peaking plants at the significant levels it did for reliability reasons during the 2017-18 New Year Event. Both contentions do not appear plausible. For starters, the Bakken region, unlike Texas (and other surrounding states), is accustomed to freezing and sub-zero temperatures. The February Event was heavily driven by natural gas production in southern states failing because natural gas production in that region is unaccustomed to operating in such temperatures. Additionally, it was very cold in the Bakken region during the February Event and the 2017-18 New Year Event, so it is unclear why Xcel's concerns and actions would not be similar across both events.[53]

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[51] Xcel Ex. ___ at 37 (Derryberry Rebuttal).
[52] *Id.* at 40–41.
[53] See DOC Ex. ___ at 9 and 16 (King Direct) Figures 3 and 9, for weather graphics of each event. In both cases, the entire northern midcontinent experienced average temperatures 20° F below normal.

Q. WHY IS XCEL'S DISPATCH OF ITS PEAKING PLANTS DURING THE 2017-18 NEW YEAR EVENT SIGNIFICANT?

A. As I stated in my direct testimony, the 2017-18 New Year Event is very similar to the February Event in many respects including that it was a price spike event in the daily spot market, over a holiday weekend, driven by less-than-Design-Day weather.[54] As such, Xcel's actions during the prior event are the best indication of what it would have done with its peaking plants during the February Event.

Q. DOES XCEL RAISE OTHER ISSUES RELATED TO POTENTIALLY HAVING USED ITS PEAKING PLANTS?

A. Similar to CNP, Xcel argues that utilizing its peaking plants during the February Event would have threatened the plants' availability for a Design Day later in the winter.

Q. DOES THE PEAKING PLANT DISPATCH UNDERLYING YOUR DISALLOWANCE IGNORE THE RISK OF NOT HAVING THE PLANTS AVAILABLE FOR A LATER DESIGN DAY?

A. No. The discussion above in Section III.C in response to the same argument made by CNP also applies here. The amount of planned dispatch underlying the disallowance is equivalent to 1.68 days of LNG as compared to the roughly 14 days Xcel's LNG plant is capable of running (at full output from full inventory). If Xcel had come into the February Event with operable and full peaking plants (which should have been plausible given the mild weather prior to the February Event), it would have been left with the vast majority of gas in its LNG plant and the full inventory of its propane plants. This

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[54] *See* DOC Ex. ___ at 94–95 (King Direct).

amount of peaking plant inventory should have been more than sufficient for Xcel to be comfortable dispatching, especially given the late season nature of the event.

E. Errata

Q. PLEASE DESCRIBE XCEL'S ERRATA.

A. Xcel filed an Errata on February 8, 2022 including corrections to the direct testimony of Mr. Smead and Mr. Derryberry along with the rebuttal testimony of Mr. Derryberry.[55]

Q. WHAT ASPECT OF XCEL'S ERRATA ARE YOU ADDRESSING?

A. I am addressing Xcel's Errata as it pertains to the direct testimony of Mr. Derryberry. Specifically, the Errata changes a table in Mr. Derryberry's testimony to reduce its planned spot purchases by 4,000 Dth and also its supply failures by an equivalent amount on February 17. Because these changes offset each other, the net effect (less planned supply and less supply failures) is that Xcel's actual spot purchases have not changed. However, Xcel's representation of its planned spot purchases for February 17 has changed.

Q. DID XCEL EXPLAIN THE CORRECTION OR PROVIDE UPDATED WORKPAPERS?

A. No.

Q. DOES XCEL'S ERRATA AFFECT YOUR DISALLOWANCE CALCULATIONS?

A. Xcel's Errata affects one of my disallowance calculations, specifically the curtailments in forecasting for February 17. That disallowance relies on Xcel's planned spot purchases for that day, which Xcel has modified in its Errata.

[55] Errata to the Direct Testimony of Richard Derryberry (Feb. 8, 2022) (eDocket No. 20222-182557-01).

Q. DO YOU RECALCULATE YOUR DISALLOWANCE FOR XCEL IN LIGHT OF ITS ERRATA?

A. Yes. In Table 4, I have added columns that calculate the disallowance in consideration of Xcel's Errata.

V. MERC

Q. WHAT ISSUES ARE YOU ADDRESSING RELATED TO MERC?

A. I am addressing MERC's response to my recommended disallowances in the areas of forecasting on February 17. As discussed in my direct testimony, recommended disallowances for MERC are specific to MERC-NNG.

A. Forecasting

Q. PLEASE SUMMARIZE YOUR DISALLOWANCE FOR MERC-NNG RELATED TO FORECASTING FOR FEBRUARY 17.

A. In direct testimony, I recommend a disallowance for MERC-NNG related to over-purchasing spot gas based on an unreasonably high load forecast for February 17. The very large forecast error for February 17 appears to be caused by issues related to how MERC derives sales customer load requirements based on its system load less transportation customers.

Q. DOES MERC AGREE WITH YOUR DISALLOWANCE?

A. No. In rebuttal testimony, MERC introduces a new, lower load forecast for February 17 which it states was the basis of its supply plans and not the load forecast it provided in direct testimony.[56] MERC explains that it followed its normal procedures for forecasting

[56] MERC Ex. ___ at 19 (Mead Rebuttal).

load on February 17. Furthermore, MERC argues that its supply plan for February 17, based on the new load forecast, reflected a reasonable 10% supply reserve margin.

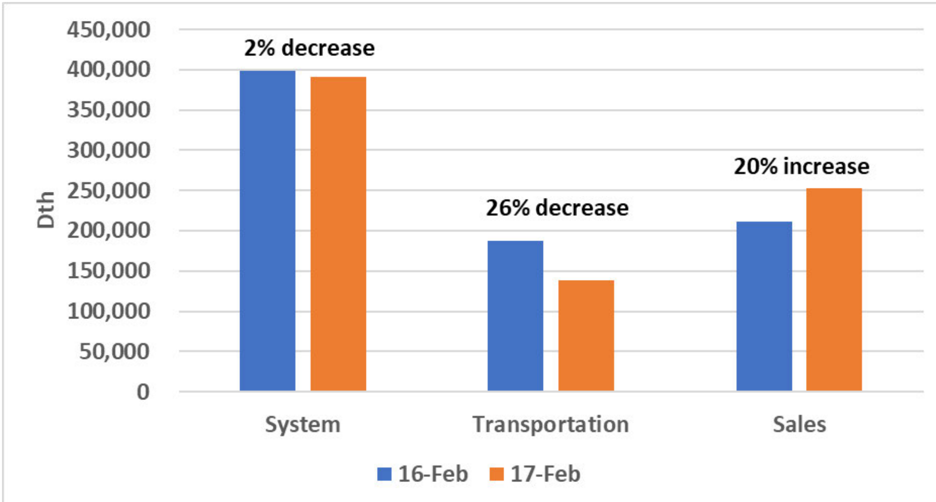
Q. IS YOUR CONTENTION THAT MERC FORECASTED DIFFERENTLY FOR FEBRUARY 17?

A. No. My concern with MERC's forecasting for February 17 is that dynamics in the transportation customer load during the February Event manifested themselves in excess sales customer load (the load that determines how much gas supply MERC purchases) based on MERC's load forecasting process.

Q. PLEASE EXPLAIN THE RELEVANT TRANSPORTATION CUSTOMER LOAD DYNAMICS.

A. In my direct testimony, I describe and illustrate with a figure that MERC's transportation customers utilized significantly less gas during the February Event than prior to it. For the Four-Day Period, MERC anticipated more transportation load than transpired, but by February 17 MERC's forecast of transportation load was in line with the lower usage. Figure 4 illustrates the change in MERC's forecast from February 16 (the last day of the Four-Day Period) to February 17. It shows that MERC's forecast for transportation load was significantly lower, whereas its overall system load (transportation and sales) only decreased slightly. Because sales load is simply the difference between the system and transportation load, the net effect is that MERC forecasted a significant increase in sales load.

Figure 4: MERC-NNG Load Forecast February 16 vs 17



Q. DOES MERC'S NEW LOAD FORECAST FOR FEBRUARY 17 ALLEVIATE YOUR CONCERN?

A. No. By introducing a new lower load forecast, MERC is effectively recasting an excess spot gas purchase based on a load forecast into one driven by a large supply reserve margin. Rather than its spot gas purchases roughly meeting the previous, higher load forecast, its planned supply exceeds its new load forecast by roughly 10%.

Q. IS MERC'S RECAST 10% SUPPLY RESERVE MARGIN REASONABLE FOR FEBRUARY 17?

A. No. MERC explains in direct testimony that "as forecasted demand will never precisely equal actual demand, in order to ensure that actual demand requirements were fully supported and to avoid any under-delivery penalties, MERC also purchased a small (<2%) reserve supply."[57] As discussed previously, MERC planned for a 1.7% supply reserve margin on February 14.

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[57] MERC Ex. ___ at 26 (Sexton Direct).

Q. HAVE YOU ADJUSTED YOUR DISALLOWANCE FOR MERC IN LIGHT OF ITS NEW LOAD FORECAST?

A. No. The quantity of spot gas MERC purchased for February 17 has not changed. Regardless of whether that quantity was driven an unreasonable load forecast or a supply reserve margin, my recommended disallowance still applies.

VI. GP

Q. WHAT ISSUES ARE YOU ADDRESSING RELATED TO GP?

A. I am addressing GP's response to my recommended disallowances in the areas of storage on February 17.

A. Storage

Q. PLEASE SUMMARIZE YOUR STORAGE DISALLOWANCE FOR GP.

A. In my direct testimony, I recommend a disallowance for GP related to its failure to maximize storage withdrawals on February 17. The disallowance was calculated based on the reduced amount of spot gas GP could have bought had it fully incorporated its maximum storage withdrawal capability in its purchasing plans on February 16 for supply on February 17.

Q. DOES GP AGREE WITH YOUR DISALLOWANCE?

A. No. GP argues that its decision to return its storage withdrawals to business-as-usual levels was reasonable given the warmer temperatures expected for February 17, an expectation that gas prices would fall, higher-than-planned withdrawals in the month, and the need to hold supply reserves (in the form of storage) in the case of supply failures.[58]

Q. WHAT DID GP KNOW ON FEBRUARY 16 WHEN MAKING SUPPLY DECISIONS FOR FEBRUARY 17?

A. The above discussion in Section II.B is relevant here. As GP states, there was no clear end to the pricing event, meaning it could very well extend beyond the Four-Day Period and into February 17.[59]

Q. WAS THE DECISION TO RETURN TO NORMAL STORAGE WITHDRAWALS BASED ON THE AVAILABLE INFORMATION REASONABLE?

A. No. Based on the available information, full utilization of storage in a manner similar to what GP did on February 14 (to reduce the spot purchase for the Four-Day Period) was warranted.

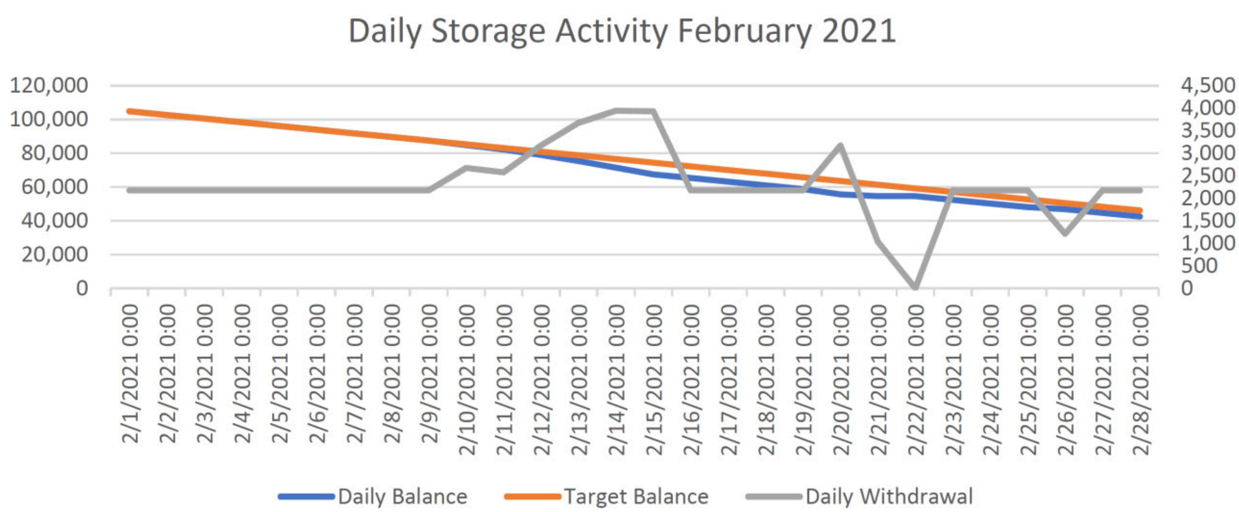
Q. WAS IT REASONABLE FOR GP TO REDUCE ITS STORAGE WITHDRAWALS ON FEBRUARY 17 TO PRESERVE ITS STORAGE SIMILAR TO WHAT YOU RECOMMEND FOR CNP RELATED TO ITS BP CANADA STORAGE?

A. No. My disallowance for CNP related to preservation of its BP Canada storage is based on CNP fully utilizing storage during the February Event based on inventory that was almost exhausted. It is not based on CNP underutilizing its BP Canada storage during the February Event to preserve it. Those circumstances are very different than GP's storage

[58] GP Ex. ___ at 5 (Nieuwsma Rebuttal).
[59] *Id.* at 9.

situation. Although GP may have used more storage during the Four-Day Period than it intended to, its storage was not about to be exhausted and GP did not need to preserve storage inventory in the midst of an unprecedented price spike. Below shows that GP had significant amounts of storage inventory remaining and that its departure from its pre-February Event plans was slight.

Figure 5: GP Storage February 2021[60]



Q. DO YOU UTILIZE A SUPPLY RESERVE MARGIN IN CALCULATING YOUR STORAGE DISALLOWANCE FOR GP?

A. Yes. I utilize a 2% supply reserve margin.

Q. WHAT IS THE BASIS FOR THE 2% SUPPLY RESERVE MARGIN?

A. As discussed above, the 2% supply reserve margin is based on the actions of the Gas Utilities, including GP. GP itself procured supplies on February 14 that were 1.8% above its forecasted load.

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[60] GP Ex. ___ at 13 (Nieuwsma Direct).

Q. DO YOU AGREE THAT THE DISALLOWANCE SHOULD GRANT GP A MORE LIBERAL SUPPLY RESERVE MARGIN?

A. No. I believe the Gas Utilities (including GP) purchasing decisions for the Four-Day Period are the best indication of a reasonable supply reserve margin for February 17.

VII. CONCLUSION

Q. PLEASE SUMMARIZE YOUR RECOMMENDED DISALLOWANCES

A. In the following tables, I provide the dollar amounts of recommended separately for each of the Gas Utilities. The amounts are the same as shown in my direct testimony with a couple of exceptions. For CNP, the NGPL disallowance is removed as shown above. For Xcel, the amounts differ based on the storage recalculation as discussed above as well as for Xcel's errata.

Table 3: CNP Recommended Disallowances

Issue	$
Storage – Medford	3,810,503
Storage – NGPL	0
Storage – BP Canada 2/13-16	9,121,676
Storage – BP Canada 2/17	12,195,499
Peaking Plants	12,685,132
Curtailment	7,279,592
Total	**45,092,402**

Table 4: Xcel Recommended Disallowances

Xcel	$ with Peaking	$ without Peaking	*Errata* $ with Peaking	*Errata* $ without Peaking
Baseload	17,040,342	17,040,342	17,040,342	17,040,342
Intra-Weekend Purchases	2,820,990	2,820,990	2,820,990	2,820,990
Load Forecasting – 2/14	26,875,063	10,512,947	26,875,063	10,512,947
Load Forecasting – 2/17	5,104,873	856,001	4,351,593	102,721
Storage	4,051,652	4,051,652	4,051,652	4,051,652
Peaking Plants – 2/13-16	49,382,475		49,382,475	
Peaking Plant – 2/17	14,688,960		14,688,960	
Curtailment	2,824,800	2,824,800	2,824,800	2,824,800
Total	**122,789,155**	**38,106,732**	**122,035,875**	**37,353,452**

Table 5: MERC-NNG Recommended Disallowances

$	MERC-NNG
Load Forecasting	9,707,206
Curtailment	958,307
Total	**10,665,514**

Table 6: GP Recommended Disallowances

$	**GP**
Storage	546,810
Curtailment	504,507
Total	**1,051,317**

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes.